

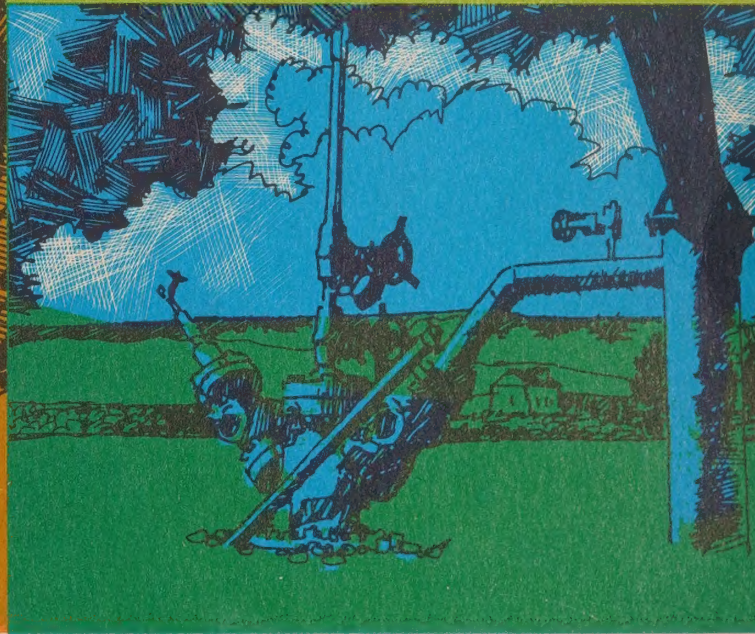
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1967-68 ANNUAL REPORT



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To:

THE HONOURABLE J. R. SIMONETT,
Minister of Energy and Resources Management.

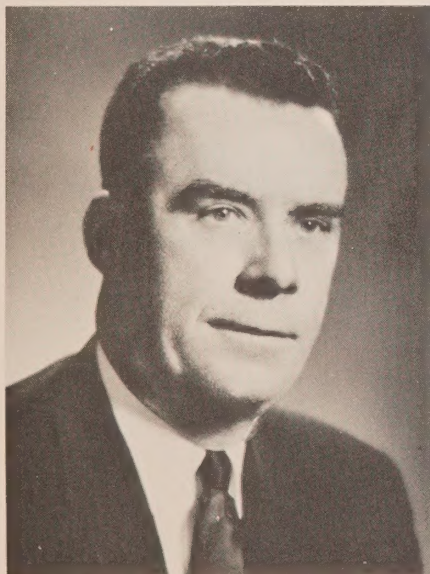
Sir,

I have the honour to submit for your approval the
1967-1968 Annual Report of the Department of Energy
and Resources Management.

Respectfully submitted,

A handwritten signature in blue ink, appearing to read "J. C. Thatcher".

J. C. Thatcher,
Deputy Minister.



To:

HIS HONOUR, THE LIEUTENANT-GOVERNOR
OF THE PROVINCE OF ONTARIO.

May it please Your Honour,

I have the honour to present the Annual Report of the
Department of Energy and Resources Management for
the fiscal year beginning April 1, 1967, and ending
March 31, 1968.

Respectfully submitted,

A handwritten signature in blue ink, appearing to read "J. R. Simonett".

J. R. Simonett,
Minister.

Annual Report
for the period
April 1, 1967
to March 31, 1968

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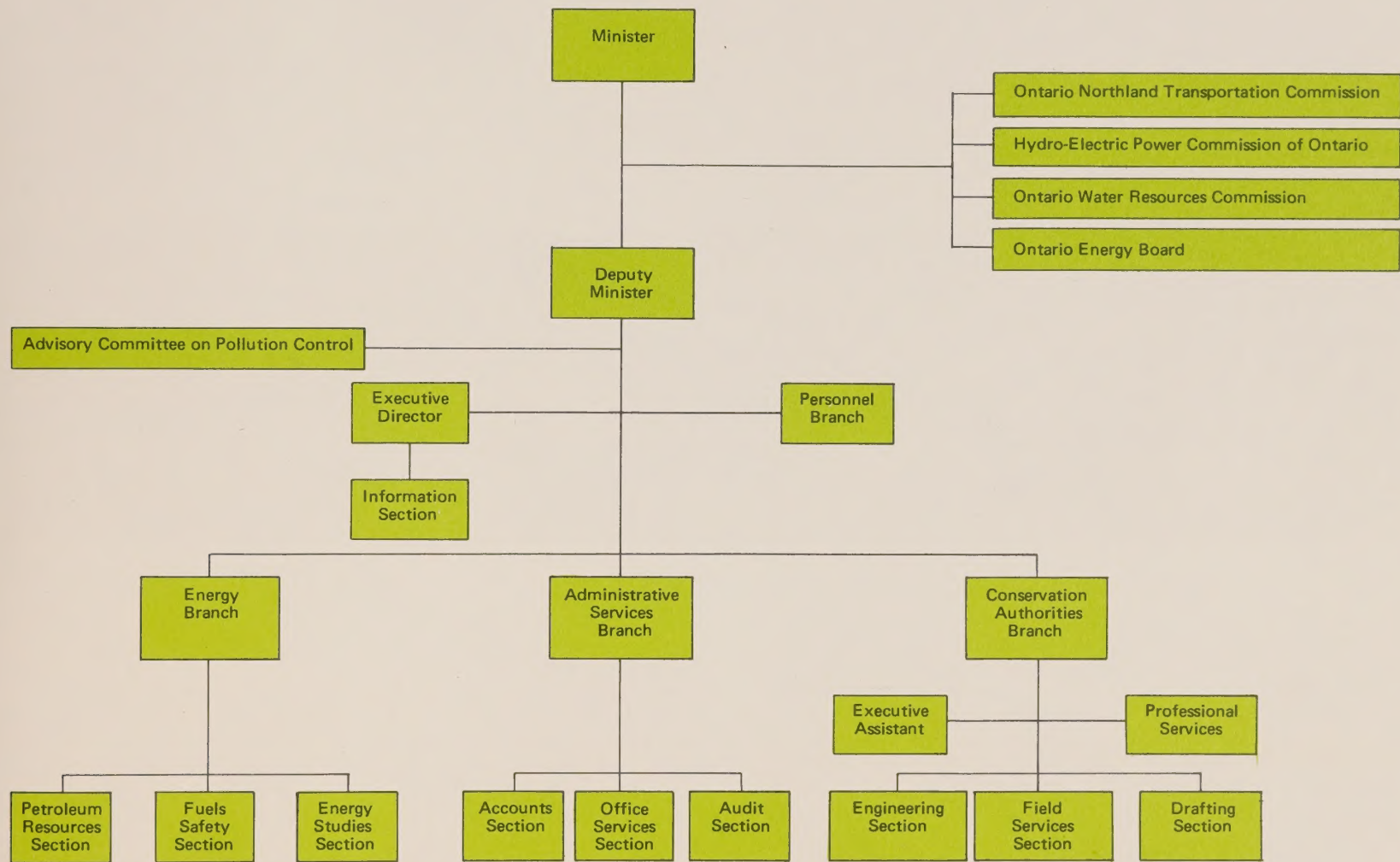
ENERGY BRANCH

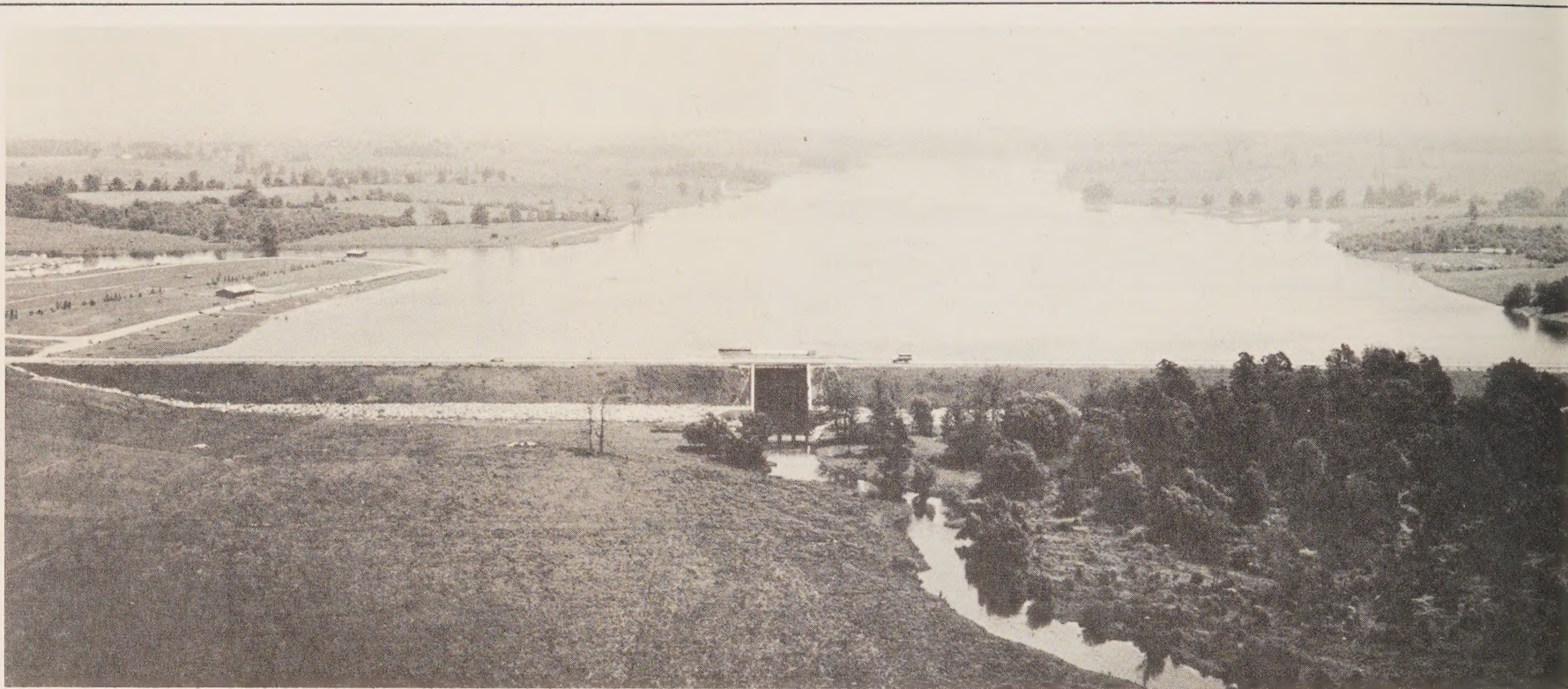
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ORGANIZATION CHART





During the year, the Sod Turning Ceremony for the Parkhill Dam took place on June 5th. The Honourable M. Sauvé, representing the Federal Department of Forestry and Rural Development and the Honourable J.R. Simonett, representing the Ontario Department of Energy and Resources Management officiated. The construction of the multi-million dollar Gordon Pittock Dam at Woodstock was completed.

As in the past, the Small Reservoir Program continued to expand and was the most widespread activity among the Conservation Authorities with 26 projects under construction. Work on the other major flood control projects was confined chiefly to land acquisition in an effort to offset the skyrocketing land costs. The Norwich Dam was officially opened by Mr. J.C. Thatcher on June 7th.

Black Creek's Pioneer Village with its most recent acquisition, Halfway House, was declared open by the Prime Minister, the Honourable John P. Robarts.

The Select Committee on Conservation Authorities Report, with its 127 recommendations, was presented to the Legislature at the spring session. During the ensuing months the Conservation Authorities Branch worked hard to implement as many of these recommendations as possible. Twenty-seven of these recommendations required amending legislation and these will be presented to the Legislature next year.

Other recommendations concerned policy decisions, and perhaps the most important of these is the proposal for the sliding scale of grants.

The Manual of Information for Conservation Authorities, which was first issued in 1959, has once again been completely revised and updated. A historian has been appointed to the staff of the Branch and a Public Relations Branch, including a Photographer, has been established in the Department.

CONSERVATION AUTHORITIES BRANCH

The Conservation Authorities Branch administers the Conservation Authorities Act and directs establishment of conservation programs on a river valley basis in Ontario. According to the Act, the working units of these programs are Conservation Authorities, corporate bodies representing local municipalities on the watersheds of rivers, creeks, and streams in the Province. Each Authority is permitted to undertake almost any type of conservation work; however, because Government grants are available for these projects, the Branch has the responsibility of taking the necessary precautions to see that the money granted is wisely spent.

The main concern of the Conservation Authorities Branch, therefore, is the supervision of the organization of Conservation Authorities across Ontario. The Branch assists and advises Conservation Authorities in planning and carrying out resource management.

The Branch is also responsible for the administration of The Parks Assistance Act under which municipalities may receive financial assistance for the acquisition and development of certain parks.

There are 36 Conservation Authorities, representing over 85 percent of agricultural southern Ontario and 75 percent of the population of the Province.

Although no new Authorities were formed in the 1967-68 fiscal year, the Raisin River Conservation Authority was enlarged to include the Rivière au

Baudet, Rivière Delisle, Hoople Creek and a number of small streams. The area under the jurisdiction of the Authority was increased from 261 square miles to 525 square miles and the name changed to the Raisin Region Conservation Authority.

The need for specific conservation action, such as protection from floods, may be the immediate motivating force behind the formation of some Authorities, but most of them cannot analyze or begin to solve the conservation problems in their areas until the watershed has been surveyed and studied by a resource specialist. As a newly established Authority is usually not equipped to carry out this study and examination, the Conservation Authorities Branch, at no expense to the Authority, undertakes preliminary investigation of the resources of the watershed. These surveys are usually the first service the Branch renders to a new Authority.

While differing according to the assets and problems of their watersheds, all Authorities emphasize conservation of the four renewable resources: land, forest, wildlife and water. Field data from the surveys is analyzed, combined with historical data and information from many sources, and conservation reports are prepared for the use of the Authorities.

In 1967, field surveys were conducted in the Rideau Valley Conservation Authority and the Redhill Creek area of the Hamilton Region Conservation Authority.

C1—CONSERVATION AUTHORITIES IN ONTARIO, 1967/68

Conservation Authority	Established	Enlarged	Area Sq. Miles
Ausable	July 30, 1946		665
Big Creek Region	Sept. 9, 1948	August 5, 1954	610
Cataraqui Region	Dec. 17, 1964		1,265
Catfish Creek	Feb. 23, 1950	March 29, 1961	189
Central Lake Ontario	July 17, 1958		242
Credit Valley	May 13, 1954	Feb. 17, 1955	383
Crowe Valley	Nov. 6, 1958		775
Ganaraska Region	Oct. 8, 1946	March 15, 1962	229
*Grand River	April 6, 1966		2,614
Halton Region	Dec. 30, 1963		366
Hamilton Region	May 8, 1958	June 1, 1966	171
Holland Valley	Sept. 6, 1951	March 24, 1960	232
Junction Creek	Dec. 12, 1957		125
Kettle Creek	April 1, 1965		199
Lakehead Region	July 15, 1954	Jan. 1, 1963	980
Lower Thames Valley	Feb. 2, 1961		880
Maitland Valley	Sept. 6, 1951	Nov. 16, 1961	984
Mattagami Valley	Nov. 30, 1961		34
Metropolitan Toronto and Region	Feb. 1, 1957		968
Moirs River	July 31, 1947		1,056
Napanee Region	Nov. 20, 1947	July 8, 1965	750
Niagara Peninsula	April 30, 1959		950
North Grey Region	June 5, 1957		655
Nottawasaga Valley	May 5, 1960		1,210
Otonabee Region	July 9, 1959	March 24, 1960	603
Otter Creek	Aug. 5, 1954	Feb. 2, 1956	323
Prince Edward Region	Dec. 9, 1965		390
Raisin River Region	Oct. 10, 1963	Feb. 29, 1968	525
Rideau Valley	March 31, 1966		1,581
Sauble Valley	July 17, 1958	Sept. 3, 1959	560
Saugeen Valley	March 16, 1950	May 27, 1954	1,619
Sault Ste. Marie	Nov. 21, 1963		83
South Nation River	May 8, 1947		1,512
Sydenham Valley	Jan. 12, 1961		1,052
Upper Thames River	Sept. 18, 1947		1,325
Whitson Valley	Sept. 3, 1959		123

*combines Grand Valley Conservation Authority and the Grand River Commission.



C2-DEPARTMENTAL GRANTS TO CONSERVATION AUTHORITIES, 1967/68

Under the Conservation Authorities Act, R.S.O. 1960, as amended 1961-62

	ORDINARY	CAPITAL	TOTAL
Ausable Region	24,382.56	502,993.64	527,376.20
Big Creek Region	17,406.72	26,513.51	43,920.23
Cataraqui Region	9,642.75	76,015.94	85,658.69
Catfish Creek	7,614.98	78,665.79	86,280.77
Central Lake Ontario	9,089.34	51,330.51	60,419.85
Credit Valley	26,594.06	375,123.26	401,717.32
Crowe Valley	2,006.14	111.46	2,117.60
Ganaraska Region	3,040.96	5,649.25	8,690.21
Grand River	191,161.79	321,425.44	512,587.23
Halton Region	66,119.46	855,339.83	921,459.29
Hamilton Region	25,713.46	93,989.91	119,703.37
Holland Valley	10,781.65	18,725.97	29,507.62
Junction Creek	9,962.04	147,018.12	156,980.16
Kettle Creek	2,504.07	450.00	2,954.07
Lakehead Region	1,604.07	40,290.21	41,894.28
Lower Thames Valley	13,410.67	211,795.70	225,206.37
Maitland Valley	10,433.38	36,738.96	47,172.34
Mattagami Valley	1,422.67	72,376.16	73,798.83
Metro-Toronto & Region	427,553.13	4,722,003.02	5,149,556.15
Moira River	10,496.22	24,595.59	35,091.81
Napanee Region	6,903.69	31,714.44	38,618.13
Niagara Peninsula	23,620.80	180,868.49	204,489.29
North Grey Region	8,489.69	20,349.15	28,838.84
Nottawasaga Valley	8,751.18	38,491.10	47,242.28
Otonabee Region	23,795.59	28,186.11	51,981.70
Otter Creek	4,811.07	2,277.14	7,088.21
Prince Edward Region	1,699.99	-	1,699.99
Raisin River	1,232.12	-	1,232.12
Rideau Valley	7,842.99	18,665.97	26,508.96
Sauble Valley	3,460.30	4,115.53	7,575.83
Saugeen Valley	20,985.37	31,526.42	52,511.79
Sault Ste. Marie Region	5,079.16	37,329.57	42,408.73
South Nation River	1,796.65	44,022.13	45,818.78
Sydenham Valley	7,427.56	46,166.38	53,593.94
Upper Thames River	85,239.78	745,086.26	830,326.04
Whitson Valley	885.37	33,528.71	34,414.08
Miscellaneous	-	189,544.93	189,544.93
TOTAL EXPENDITURE	1,082,961.43	9,113,024.60	10,195,986.03
Less Payments from Metro-Toronto & Region	11,244.00		11,244.00
Government of Canada			
A) ARDA		744,059.18	744,059.18
B) Flood Control		1,975,054.83	1,975,054.83
Net Expenditure	\$1,071,717.43	\$6,393,910.59	\$7,465,628.02

The demand for the control and use of this essential resource has never been greater. All Conservation Authorities are active in varying degrees with the development of the water resources within their boundaries, including flood control, erosion control, storage or irrigation, pollution abatement, recreation, etc., depending upon immediate and future needs.

Most Authorities are looking to the future by implementing studies of the overall areas under their jurisdiction. These include the mapping of possible reservoir sites and flood plain acquisition to assist in adequate community planning and to prevent encroachment on the lands which naturally are reserves of the river systems.

FEDERAL/PROVINCIAL AUTHORITY AGREEMENT

The Government of Canada, the Government of Ontario, and the Conservation Authorities concerned continue to co-operate under special agreements to implement large-scale water control programs. Both senior levels of Government contribute 37½ percent, and the remaining 25 percent is being raised by the Conservation Authorities from the benefitting municipalities.

One major project on the Upper Thames River Conservation Authority, the Gordon Pittock Dam, was completed and went into operation during 1967. This dam is situated on the South Branch of the Thames at Woodstock. Also completed during 1967 was the Thomas Orr Dam and Reservoir at Stratford on the Avon

River, a tributary of the North Branch of the Thames. Mapping and engineering are progressing on the two major projects on the Upper Thames: the Glengowan dam on the North Branch and the Thamesford dam on the Middle Branch of the Thames. Both of these are included in the agreement for the flood control program of this watershed.

On the Ausable River Conservation Authority, approval for construction of the Parkhill Dam on the Parkhill Creek was given under the Federal/Provincial ARDA program. Also approved under this program are a Preliminary Engineering Study of the Lower Thames River and construction of dams in the Moira Conservation Authority, at Deerock and Stoco Lakes.

The Grand River Conservation Authority program for flood control and water conservation, consisting of five large flood control structures plus channel improvements, has conditional approval of the Provincial Government for Phase One of the 12-year proposal, and now awaits approval of the Federal Government.

Under the M.T.R.C.A. Authority agreement, the design for the High Finch Dam was completed and is currently under review. Another project under the agreement is the York Mills Channel Improvement which was substantially completed during this year.

In the Halton Region Conservation Authority, the Morrison-Wedgewood Diversion and 14 Mile Creek at Oakville have been approved and construction is underway on the first phase of this project.

C3—WATER CONTROL PROJECTS — 1967/68 FISCAL YEAR EXPENDITURES PROVINCIAL-AUTHORITY AGREEMENTS

Cost Sharing: Authority 50% - Ontario 50%

Authority	Project	Engineering	Construction	Land	Misc.	Total	Authority	Province
Metropolitan Toronto & Region	Milne Reservoir	17,488	179,444	168	1,468	198,568	99,284	99,284
	Etobicoke Flood Plain Lands	—	—	42,223	484	42,707	21,354	21,353
	Mimico Creek F.P.L.	—	—	13,603	142	13,745	6,873	6,872
	Humber River F.P.L.	—	—	713,150	9,372	722,522	361,261	361,261
	Don River F.P.L.	—	—	40,116	935	41,051	20,526	20,525
	Highland Creek F.P.L.	—	—	240,435	406	240,841	120,421	120,420
	Rouge River F.P.L.	—	—	1,734,949	1,930	1,736,879	868,440	868,439
	Duffin F.P.L.	—	—	55,129	593	55,722	27,861	27,861
TOTALS:		\$17,488	\$179,444	\$2,839,773	\$15,330	\$3,052,035	\$1,526,020	\$1,526,015

C4(A)–WATER CONTROL PROJECTS – 1967/68 FISCAL YEAR EXPENDITURES
FEDERAL-PROVINCIAL-AUTHORITY AGREEMENTS

Cost Sharing: Authority 25% - Ontario 37½% - Canada 37½%

Authority	Project	Engineering	Construction	Land	Misc.	Total	Authority	Province	Federal
HALTON	Oakville	116,069	500,150	216,287	10,726	843,232	214,831	316,212	312,189
M.T.R.C.A.	Black Creek	—	29,256†	79,085†	521	107,820†	38,009†	29,183†	40,628†
	Claireville	—	2,574†	164,384	8,280	170,090	45,628	63,784	60,678
	Ebenezer Dam	—	—	186,275	27,390	213,665	63,688	80,124	69,853
	Lower Bolton	—	—	83,950	2,147	86,097	22,330	32,286	31,481
	Nashville	—	—	245,655	2,087	247,742	62,718	92,904	92,120
	King Creek	—	—	556	46	602	168	226	208
	Boyd	—	—	58,040	734	58,774	14,969	22,040	21,765
	Finch	55,570	—	1,109,618	13,634	1,178,822	5,113	736,763*	436,946
	Willowdale	—	—	181,294	788	182,082	45,817	68,280	67,985
	Woodbridge Channel	—	—	34,297	130	34,427	8,656	12,910	12,861
	York Mills Channel	30,814	520,606	26	5,455	556,901	141,271	208,838	206,792
M.T.R.C.A. TOTALS:		86,384	488,776	1,985,010	61,212	2,621,382	372,349	1,288,972	960,061
UPPER THAMES	Cedar Creek	—	2,619	14†	55	2,660	685	998	977
	Glen Gowan Dam	9,543	—	—	27	9,570	2,402	3,589	3,579
	Gordon Pittock	25,563	170,735	58,727	7,346	262,371	68,347	98,390	95,634
	Mitchell	—	—	691	418	1,109	434	416	259
	Thomas Orr	15,967	218,782	181	2,873	237,803	60,528	89,176	88,099
	Thamesford Dam	4,501	—	—	27	4,528	1,142	1,698	1,688
	Wildwood	110,695	302,833	782†	8,482	421,228	108,488	157,961	154,779
UPPER THAMES TOTALS:		\$166,269	\$694,969	\$58,803	\$19,228	\$939,269	\$242,026	\$352,228	\$345,015
GRAND TOTAL EXPENDITURES		\$368,722	\$1,683,895	\$2,260,100	\$91,166	\$4,403,883	\$829,206	\$1,957,412	\$1,617,265

* 25%, of cost repayable by Authority † Credit

C4(B)–WATER CONTROL PROJECTS UNDER A.R.D.A. – 1967/68 FISCAL YEAR EXPENDITURES
FEDERAL-PROVINCIAL-AUTHORITY AGREEMENTS

Cost Sharing: Authority - Ontario - Canada

Authority	Project	Engineering	Construction	Land	Misc.	Total	Authority	Province	Federal
AUSABLE	Parkhill Dam	—	557,134	—	—	557,134	55,713	448,605	52,816
LOWER THAMES	Prel. Eng. Study	50,026	—	—	—	50,026	12,506	18,760	18,760
MOIRA RIVER	Deerock and Stuco Lakes	—	8,690	—	—	8,690	869	5,506	2,315
TOTALS:		\$50,026	\$565,824	—	—	\$615,850	\$69,088	\$472,871	\$73,891

C5—WATER CONTROL PROJECTS — 1967/68 EXPENDITURES (Continued)

SMALL RESERVOIR PROGRAM

Cost Sharing: Authority 25% - Ontario 75%

AUTHORITY	PROJECT	PRELIMINARY ENGINEERING			Authority	LAND Prov.	Total	CONSTRUCTION			TOTAL EXPENDITURE		
		Authority	Prov.	Total				Authority	Prov.	Total	Authority	Prov.	Total
KETTLE CREEK	Spring Creek	150	450	600	—	—	—	—	—	—	150	450	600
LOWER THAMES	Sharon Creek	—	—	—	—	—	—	—	159,207	159,207	—	159,207	159,207
MAITLAND VALLEY	Howson	—	—	—	—	—	—	93	4,743	4,836	93	4,743	4,836
	Lower Wingham	—	—	—	—	—	—	7,302	21,153	28,455	7,302	21,153	28,455
M.T.R.C.A.	Milne Dam (A)	—	—	—	—	—	—	—	99,200	99,200	—	99,200	99,200
	Milne Dam (B)	—	—	—	—	—	—	15,748	47,244	62,992	15,748	47,244	62,992
	Stouffville	—	—	—	—	—	—	21,252	63,214	84,466	21,252	63,214	84,466
MOIRA	Lower Moira	—	—	—	—	—	—	4,906	14,719	19,625	4,906	14,719	19,625
NAPANEE	Third Depot Lake	—	—	—	—	—	—	—	31,542	31,542	—	31,542	31,542
NIAGARA	Binbrook	—	—	—	—	—	—	6,874	20,636	27,510	6,874	20,636	27,510
	15 & 16 Mile Ponds	175	525	700	—	—	—	—	—	—	175	525	700
	Oswego	—	—	—	—	—	—	334	1,001	1,335	334	1,001	1,335
	Smithville	—	—	—	—	—	—	54	161	215	54	161	215
	Virgil	—	—	—	—	—	—	46,551	139,651	186,202	46,551	139,651	186,202
	Welland River Weir	—	—	—	—	—	—	1,290	3,871	5,161	1,290	3,871	5,161
NORTH GREY	Bognor Creek	194	582	776	—	—	—	—	—	—	194	582	776
NOTTAWASAGA	New Lowell	—	—	—	—	—	—	6,476	22,232	28,708	6,476	22,232	28,708
	Utopia	5,137	1,888	7,025	—	—	—	—	2,215	2,215	5,137	4,103	9,240
OTONABEE	Hope	—	—	—	—	—	—	2,557	7,672	10,229	2,557	7,672	10,229
	Millbrook	—	—	—	—	—	—	—	11,540	11,540	—	11,540	11,540
	Norwood	117	351	468	—	—	—	—	—	—	117	351	468
OTTER	Deliner	356	1,069	1,425	—	—	—	—	—	—	356	1,069	1,425
SAUBLE	Skinner Marsh	392	1,177	1,569	—	—	—	—	—	—	392	1,177	1,569
SAUGEEN	Durham	—	—	—	—	—	—	743	2,228	2,971	743	2,228	2,971
SOUTH NATION	Chesterville	—	—	—	—	—	—	—	4,765	4,765	—	4,765	4,765
	Russell	—	—	—	—	—	—	2,323	39,257	41,580	2,323	39,257	41,580
SYDENHAM	Alvinston	2,824	8,474	11,298	—	—	—	—	—	—	2,824	8,474	11,298
	Petrolia	—	—	—	—	—	—	4,284	12,853	17,137	4,284	12,853	17,137
UPPER THAMES	Fish Creek	608	1,824	2,432	—	—	—	—	—	—	608	1,824	2,432
	Springbank	—	—	—	—	—	—	2,554	7,661	10,215	2,554	7,661	10,215
WHITSON	Chelmsford	—	—	—	—	—	—	—	32,842	32,842	—	32,842	32,842
TOTALS:		\$28,464	\$71,108	\$99,572	\$494	\$1,483	\$1,977	\$205,012	\$1,560,728	\$1,765,740	\$233,970	\$1,633,319	\$1,867,289

C5—WATER CONTROL PROJECTS – 1967/68 EXPENDITURES

SMALL RESERVOIR PROGRAM

Cost Sharing: Authority 25% - Ontario 75%

AUTHORITY	PROJECT	PRELIMINARY ENGINEERING			LAND			CONSTRUCTION			TOTAL EXPENDITURE		
		Authority	Prov.	Total	Authority	Prov.	Total	Authority	Prov.	Total	Authority	Prov.	Total
BIG CREEK	Deer Creek	2,000	6,000	8,000	—	—	—	—	—	—	2,000	6,000	8,000
	Hay Creek	—	—	—	—	—	—	5,117	15,351	20,468	5,117	15,351	20,468
	Vittoria	—	—	—	—	—	—	7	24	31	7	24	31
CATARAQUI	Buell Creek	—	—	—	—	—	—	—	45,496	45,496	—	45,496	45,496
	Little Cataraqui	—	—	—	—	—	—	—	85	85	—	85	85
	Millhaven Creek	3,514	10,544	14,058	—	—	—	—	—	—	3,514	10,544	14,058
	Sydenham Lake	581	1,744	2,325	—	—	—	—	—	—	581	1,744	2,325
CATFISH CREEK	Springwater	2,150	6,450	8,600	—	—	—	—	69,898	69,898	2,150	76,348	78,498
CREDIT	Fairy Lake	—	—	—	—	—	—	12,889	38,667	51,556	12,889	38,667	51,556
	Meadowvale	900	2,700	3,600	—	—	—	—	—	—	900	2,700	3,600
	Orangeville	—	—	—	—	—	—	18	277,181	277,199	18	277,181	277,199
CROWE	Crowe Bridge Weir	—	—	—	—	—	—	—	111	111	—	111	111
GANARASKA	Corbets Dam	200	600	800	—	—	—	—	—	—	200	600	800
	Port Hope Channel	175	525	700	—	—	—	—	—	—	175	525	700
GRAND	Fairchilds Creek	225	675	900	—	—	—	—	—	—	225	675	900
	Floradale	—	—	—	—	—	—	—	34,262	34,262	—	34,262	34,262
	Canagagigue	2,125	6,375	8,500	—	—	—	—	—	—	2,125	6,375	8,500
	Mill Creek	—	—	—	—	—	—	—	14,206	14,206	—	14,206	14,206
	Laurel Creek	—	—	—	—	—	—	—	25,629	25,629	—	25,629	25,629
	Victoria Mills	493	1,125	1,618	—	—	—	—	—	—	493	1,125	1,618
	Shades Mill	—	—	—	—	—	—	2,496	7,487	9,983	2,496	7,487	9,983
HALTON	Hilton Falls	—	—	—	494	1,483	1,977	—	79,845	79,845	494	81,328	81,822
	Mountsberg	—	—	—	—	—	—	18,139	54,417	72,556	18,139	54,417	72,556
HAMILTON	Valens	—	—	—	—	—	—	1,386	4,159	5,545	1,386	4,159	5,545
	Christie	2,374	6,706	9,080	—	—	—	—	32,467	32,467	2,374	39,173	41,547
	Tews Falls	509	1,530	2,039	—	—	—	—	—	—	509	1,530	2,039
HOLLAND	Rogers	781	2,342	3,123	—	—	—	—	3,583	3,583	781	5,925	6,706

C5—WATER CONTROL PROJECTS — 1967/68 EXPENDITURES (Cont.)

SMALL RESERVOIR PROGRAM

Cost Sharing: Authority 25% - Ontario 75%

JUNCTION	Frood Dam	—	—	—	—	—	—	1,211	3,631	4,842	1,211	3,631	4,842
	Maley	—	—	—	—	—	—	12,776	38,327	51,103	12,776	38,327	51,103
	Nepahwin	—	—	—	—	—	—	15,855	47,565	63,420	15,855	47,565	63,420
	Nickeldale	2,484	7,452	9,936	—	—	—	—	—	—	2,484	7,452	9,936
	Perch Lake	—	—	—	—	—	—	8,908	10,124	19,032	8,908	10,124	19,032
	South East Shore	—	—	—	—	—	—	2,869	8,606	11,475	2,869	8,606	11,475

C6—MUNICIPAL WATER CONTROL PROJECTS

MUNICIPALITY	PROJECT	PRELIMINARY ENGINEERING			CONSTRUCTION			TOTAL EXPENDITURE		
		Authority	Prov.	Total	Authority	Prov.	Total	Authority	Prov.	Total
BRIGHTON	Brighton Reservoir	616	1,847	2,463	—	—	—	616	1,847	2,463
RENFREW	Jeffreys Lake	—	—	—	23,760	71,280	95,040	23,760	71,280	95,040
TRENTON	Mayhew Creek	—	—	—	—	108,637	108,637	—	108,637	108,637
TUCKERSMITH	Seaforth Reservoir	—	—	—	2,787	7,781	10,568	2,787	7,781	10,568
	TOTALS:	\$616	\$1,847	\$2,463	\$26,547	\$187,698	\$214,245	\$27,163	\$189,545	\$216,708



SMALL RESERVOIR PROGRAM

This program continues to expand. More Authorities have completed studies of their respective areas and are taking advantage of the opportunity to improve the available water supply through the construction of new dams and the rehabilitation of existing dams. The program is beneficial in many ways. It helps to maintain ground water levels; augments streamflow and water supply during low flow periods; enhances recreation, and assists in pollution abatement. The grant of 75 percent of the total cost of construc-

tion is still in force and was extended for five years from November, 1966. To date, 134 projects have been considered under this program and have received assistance in varying degrees, depending upon the stage of development. Twenty-six projects are under construction, and 12 others have been approved for construction. To date, 38 projects have been completed within Conservation Authorities. Four others have been built by municipalities outside Conservation Authority boundaries, making a total of forty-two.

CHANNEL IMPROVEMENTS

To facilitate the movement of water through critical areas for the purposes of flood control and prevention of stream-bank erosion, channel improvements such as widening, deepening and re-alignment may be beneficial.

The Junction Creek Authority has substantially completed extensive improvements during this year. The M.T.R.C.A. Authority was also very active in this type of work, with projects under construction on the Don and Humber Rivers and Etobicoke, Mains, and Highland Creeks.

In the Halton Authority, the Morrison-Wedgewood diversion and 14 Mile Creek Improvement at Oakville have been approved and are under construction as mentioned earlier under the Federal/Provincial programs.

Work is progressing on two projects in the Lakehead region, namely; McVicar's Creek and the Neebing River improvement.

A number of improvement projects are underway on the Lower Thames River from Chatham to Lake St. Clair.

C7-WATER CONTROL PROJECTS – 1967/68 EXPENDITURES

STANDARD WATER CONTROL PROJECTS: CHANNEL IMPROVEMENTS

Cost Sharing: Authority 50% - Ontario 50%

AUTHORITY	PROJECT	Authority	Province	Total
AUSABLE	Stewart Gully Erosion Control	664	663	1,327
CREDIT VALLEY	Credit River	1,885	1,885	3,770
GANARASKA	Ganaraska River	4,349	4,349	8,698
GRAND RIVER	Flood Control System	2,470	2,470	4,940
	Galt (City)	8,094	8,095	16,189
HALTON REGION	Indian Creek	276	276	522
	Kelso Reservoir	383	383	766
JUNCTION CREEK	Larch Elm Culvert	2,631	2,631	5,262
	Nolin Creek	12,515	12,514	25,029
	Sudbury (City)	139	139	278
LAKEHEAD	McVicar's Creek	5,089	5,088	10,177
	Neebing River	25,334	25,333	50,667
	Big Bend	99	99	198
LOWER THAMES	Thames River	164	164	328
	Raleigh	163	162	325
	Chatham (City)	30	30	60
MATTAGAMI	Timmins Town Creek	71,563	71,564	143,127
	Private Properties	2,474	2,473	4,947
	Flood Warning System	514	513	1,027
M.T.R.C.A.	York Mills	98	98	196
	Etobicoke & Mains Creeks	44,110	44,110	88,220
	Highland Creek	56,059	56,058	112,117
	Humber River	201,847	179,505	381,352
	Don River	96,590	96,590	193,180
	Beaver River	1,472	1,472	2,944
NORTH GREY	Duneden Creek	452	452	904
	Pottawatomi River	128	128	256
NOTTAWASAGA	Pretty River	1,881	1,881	3,762
OTONABEE	Otonabee River	358	358	716
	Ouse River	255	255	510
SAUGEEN	Flood Control Fund	382	382	764
	Walkerton (Town)	2,706	2,706	5,412
	Sydenham River	1,750	1,750	3,500
SYDENHAM VALLEY	Wallaceburg (Town)	1,885	1,884	3,769
	Fanshaw Lake	1,015	1,015	2,030
UPPER THAMES	Thames River	8,689	8,688	17,377
	River Bank & Pond Imp.	195	195	390
TOTALS:		\$558,708	\$536,358	\$1,095,066

FLOOD PLAINS

Mapping and acquisition of flood plain lands is being carried on extensively by approximately 50 percent of the Authorities, particularly in the built-up areas and those areas threatened by expanding municipalities.

These included the Metropolitan Toronto and Region, Upper and Lower Thames, Grand, Halton Region, Hamilton Region and the Central Lake Ontario Conservation Authorities.

This type of activity is the most practical means of preventing flood damage and possible loss of life, and will continue to expand with the mounting pressures of urbanization.



C8-WATER CONTROL PROJECTS - 1967/68 EXPENDITURES

PRELIMINARY ENGINEERING: FLOOD PLAIN MAPPING AND MISCELLANEOUS

Cost Sharing: Authority 25% - Ontario 75%

AUTHORITY	PROJECT	Authority	Province	Total
BIG CREEK REGION	Aerial Mapping	739	2,217	2,956
CATARAQUI	Little Cataraqui Creek	3,023	9,069	12,092
GRAND RIVER	Caledonia Dam	1,332	3,997	5,329
	Chicopee Dam	763	2,287	3,050
	Everton-Guelph-Hespeler	151	453	604
	Grand River Basin	850	2,550	3,400
	Montrose Dam	5,310	15,929	21,239
	Nith & Conestogo	9,355	28,065	37,420
	West Luther (Twp.)	1,585	4,754	6,339
HALTON	Flood Control Study	625	1,875	2,500
	Burlington (Town)	1,435	4,304	5,739
	Grindstone Creek	76	229	305
	Hager-Rambo	607	1,823	2,430
HAMILTON REGION	Flood Plain Mapping	2,327	6,187	8,514
JUNCTION CREEK	Kelley Lake	300	900	1,200
	Minnow Lake	300	900	1,200
	New Sudbury	26	78	104
LAKEHEAD REGION	McIntyre River Dam	250	750	1,000
	Neebing River	1,022	3,069	4,091
LOWER THAMES	Flood Plain Mapping	688	2,062	2,750
	Thames River	1,484	4,452	5,936
M.T.R.C.A.	Don River	3,061	8,950	12,011
	Caledon East	65	195	260
	Etobicoke Creek	348	1,045	1,393
	Humber River	5,392	16,177	21,569
	Private Properties	1,305	3,750	5,055
	Pilot System	971	2,915	3,886
NIAGARA PENINSULA	Black Creek	667	2,001	2,668
NOTTAWASAGA	Nottawasaga River	1,777	5,235	7,012
OTONOBEE	Jacksons Creek	667	2,001	2,668
RIDEAU VALLEY	Kemptville Creek	1,975	5,925	7,900
	Rideau River	3,749	11,246	14,995
SAUGEEN	Saugeen River	525	1,575	2,100
SAULT STE. MARIE	Misc. Channel Improvements	1,061	3,184	4,245
	Fort Creek	849	2,547	3,396
SYDENHAM	Bear Creek	372	1,114	1,486
	Strathroy (Town)	1,026	3,077	4,103
	Wallaceburg (Town)	157	172	329
UPPER THAMES RIVER	Pittock Contour Mapping	1,640	1,640	3,280
	Thamesford (Village)	175	525	700
WHITSON VALLEY	Whitson Creek	129	387	516
TOTALS:		\$58,159	\$169,611	\$227,770

FLOOD WARNING SYSTEM

In the interest of public safety and the efficient operation of flood control structures, this service is being expanded continually and is available to all Conservation Authorities, government departments, and other public or private agencies.

Significant in relation to flood control is the recent installation of automatic telemetering equipment which relays basic river flow data to the control operations centre via telephone. Four of these installations are in service on the watershed of the Upper Thames River and one on the Lower Thames. Extension of this instrument will continue over the ensuing years, in conjunction with the Conservation Authorities Branch and the Inland Waters Branch, of the Canada Department of Energy, Mines and Resources.

The Metropolitan Toronto and Region Conservation Authority is operating a

pilot study on the Humber River to ascertain the most effective means of telemetering rainfall and streamflow data to the central operations office.

The Grand River Authority has for a number of years operated telemetering equipment as an aid in operating its water control structures, and is continuing to expand the system as the situation demands.

MAINTENANCE OF WATER CONTROL CONTROL STRUCTURES

A policy, whereby 75 percent grants were made available to Conservation Authorities toward the cost of operation and maintenance of water control structures, was established by Order-in-Council dated June 3, 1965.

In 1967, a total of \$67,500 was paid to 19 Conservation Authorities in the form of grants for the operation and maintenance of 84 water control structures; 71 inspections were made and reports forwarded to the Authorities.



C9—WATER CONTROL PROJECTS — 1967/68 EXPENDITURES

STANDARD WATER CONTROL PROJECTS:

FLOOD PLAIN LANDS AND RESERVOIR LANDS PURCHASED

Cost Sharing: Authority 50% - Ontario 50%

AUTHORITY	PROJECT	Authority	Province	Total
CREDIT VALLEY	Brampton (Town)	6,779	6,779	13,558
HALTON REGION	Oakville (Town)	11,953	11,953	23,906
MATTAGAMI	Timmins Town Creek	813	812	1,625
SYDENHAM	Dresden (Town)	1,442	1,442	2,884
TOTALS:		\$20,987	\$20,986	\$41,973

C10—WATER CONTROL PROJECTS — 1967/68 EXPENDITURES

STANDARD WATER CONTROL PROJECTS

DAMS — CONSTRUCTION AND IMPROVEMENTS

Cost Sharing: Authority 50% - Ontario 50%

AUTHORITY	PROJECT	Authority	Province	Total
GRAND RIVER	Columbia	35,979	34,935	70,914
	Montrose Dam Survey	14,888	9,750	24,638
LOWER THAMES	Flood Control Thames River	707	707	1,414
SAULT STE. MARIE	Fort Creek Dam	31,599	31,599	63,198
UPPER THAMES	R. Thomas Orr Dam	988	988	1,976
TOTALS:		\$84,161	\$77,979	\$162,140

As a result of surveys carried out by the Conservation Authorities Branch during the fiscal year, the area within existing authorities of over 1,300,000 acres, that has been recommended for forest management, was increased by 20 percent. This was due to the incorporation of the Rideau Valley Conservation Authority, which contains major acreages of Precambrian Shield and marginal limestone plain.

Forestry practices in Authorities serve several functions—the protection of source water areas, erosion control, the rehabilitation of marginal land, the growing of timber and the preservation of natural timber-growing potential, and as a natural aid to flood control schemes. Trees planted under Authority auspices serve as windbreaks and shelter belts for farms, and they are also used for landscaping and screening in conservation areas.

Authority forests may consist of both natural and planted forest areas, and, as recommended in conservation reports, frequently function as the major conservation schemes on marginal land. The total area of Authority forests is now 81,269 acres, covering portions of 23 Authorities. Two Authorities used ARDA funds to purchase this type of land in 1967.

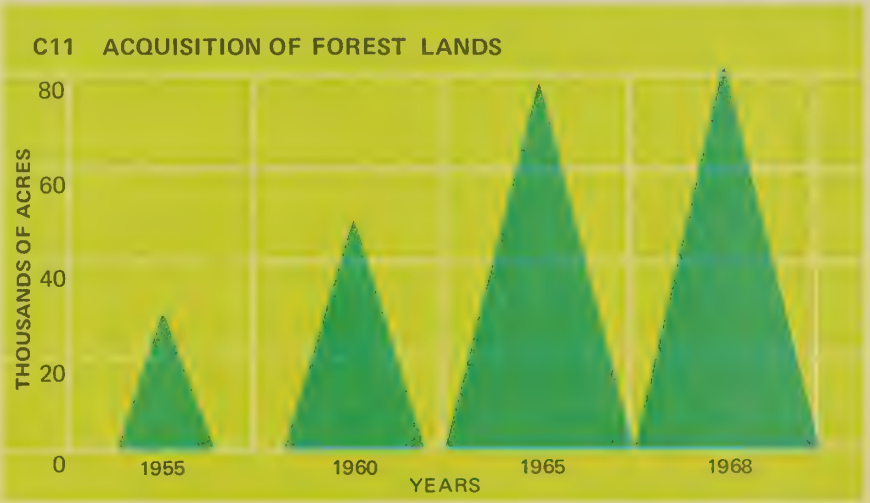
Most Authority forests are placed under agreement with the Department of Lands and Forests for management purposes. These had insect control work, thinning operations, and crop tree cutting performed on them in

1967. The Ganaraska forest, the oldest within the Authority movement, had two major hiking trails laid out in it, showing its increasing use for recreation as well as for timber production.

In recent years, some Authorities have tended to purchase forestry land that would receive special management by their own staffs. This has been a long-time practice on the part of the Grand River Conservation Authority; in 1967, 3,273 acres of this type of land were purchased by this Authority and seven others. This is double the acreage purchased for this purpose during the previous year. In 1967, 396,000 trees were planted on these lands.

Reforestation on private land continues to be a part of Authority work. Seventeen Authorities, working under a number of varied assistance programs, either planted or subsidized the establishment of 1,228,000 trees on private land in the last fiscal year.

The use of reforestation in conservation areas for demonstration and recreation purposes continues. Trees may be planted for landscaping purposes, erosion control, screening and wind protection. This type of planting was done by 12 Authorities, utilizing 475,000 trees. These were mainly seedlings, but included about 1,000 larger specimens which were established for landscaping. Special farm tree replacement efforts are an important part of the program of the Metropolitan Toronto and Region Conservation Authority, which set out 2,500 larger (5-foot) trees for this purpose on private lands. There are now six



nurseries of various sizes in five Authorities, producing such tree stock. Another specialized use of trees on private land was continued by the Lower Thames Valley Conservation Authority which established 2,000 trees on one property for wind protection purposes.

Woodlot management on Authority lands has become increasingly important, as the ownership of naturally wooded areas by Authorities has gradually accumulated over a period of years. Four Authorities completed woodlot sanitation work to combat the spread of Dutch elm disease during the past year; three of these incorporated thinning work. These operations were mainly carried out during off-season periods.

In soil and land use programs, Authorities focus their attention on agricultural areas and their residents and on certain basic conservation functions, some of which are peculiar to certain regions due to their topography and physical make-up. Thus the Ausable Authority in south-western Ontario began a ditch-side erosion control project and provided technical assistance to beach front owners. The Grand River Conservation Authority began two streambank control projects on private lands, while the Metropolitan Toronto and Region Conservation Authority completed two. The Halton Region Conservation Authority developed shoreline erosion control measures in the Kelso Conservation area, and the North Grey Region Conservation Authority continued two erosion control projects, which

will take some years to complete, on two internal watersheds. Other individual stream-bank control projects were completed by the Ausable, Central Lake Ontario and Credit Authorities. These were all exclusive of major control works that required engineering.

Grassed waterway programs were continued on agricultural land in 1967, with four Authorities completing one or more projects. Tile drainage, an important feature in the improvement of poorly-drained land, was subsidized by three Authorities during the past year on 17 separate parcels of land. Most of these installations occurred on farms in the Cataraqui Region Conservation Authority.

Practical agricultural demonstrations, some of which constitute basic applied research programs, were either begun or enlarged by three Authorities. These are diversified programs, as shown by the continuation and expansion of a community pasture operation by the Saugeen Valley Conservation Authority, the additional land cultivation at Albion Hills Conservation School operated by M.T.R.C.A., and the forage establishment and management area operated by the Grand. The last two projects feature contour tillage demonstrations.

Another form of basic research was begun by the Lower Thames, which is attempting to develop a functional local method of establishing hardwood tree species on small flood plain areas. The same Authority continued its long-term windbreak research project on a cash-crop farm near Lake Erie.

The sponsorship of 4-H Conservation clubs has experienced a sharp increase in Authority programs. There are now 10 Authorities acting in this capacity, involving individual club memberships of from 5 to 40 young people, for an overall total of 344 members enrolled. Land judging contests were held by

four Authorities, and three land use tours were held by one Authority, the Cataraqui, for teachers. Arbor days were held by five Authorities, with three Authorities using these to complete Centennial forest plantings. These involved Boy Scout and Girl Guide troops, and, in one case, 20 schools.

C12-CONSERVATION AUTHORITY FORESTS ACREAGE

Authority	Acreage Purchased 1967/68 Fiscal Year	Total Acreage March 31, 1968
AUSABLE	—	4,396
BIG CREEK	205	3,615
CATFISH	—	627
CENTRAL LAKE ONTARIO	—	295
CROWE	—	200
GANARASKA	100	8,636
GRAND	99	5,768
HAMILTON	—	12
LAKEHEAD	—	1,825
LOWER THAMES	—	308
MAITLAND	—	949
M.T.R.C.A.	—	1,673
MOIRA	262	15,972
NAPANEE	—	6,749
NIAGARA	—	186
NORTH GREY	100	6,848
OTONABEE	100	1,445
OTTER	—	1,517
SAUBLE	248	3,008
SAUGEEN	456	12,062
SOUTH NATION	—	1,381
SYDENHAM	—	150
UPPER THAMES	80	3,359
TOTALS:	1,650	81,956

The importance of wildlife management is acknowledged by most Ontario Conservation Authorities.

Programs to improve wildlife conditions may serve a number of purposes: they may create, maintain or restore a suitable ecological balance; they increase opportunities for the pleasures of hunting, fishing and observation, and they ensure that in the future, there will be the greatest possible variety of birds, mammals and other wildlife.

During 1967, 11 authorities stocked ponds, streams or reservoirs with such game fish as brook trout, rainbow trout, panfish, large mouth bass and smallmouth bass. The Big Creek Conservation Authority introduced panfish in Backus Pond and Black Creek. Ponds and creeks were stocked with trout by the Central Lake Ontario, Credit Valley, Halton, Metropolitan Toronto and Region, Niagara Peninsula and Sydenham Valley authorities, and with bass by the Grand River, Halton Region and Hamilton Region authorities.

To provide public access to fishing, the Cataraqui Region Authority acquired 4.3 miles of shoreline.

Several Authorities have established or improved hunting and fishing areas, nature sanctuaries or other wildlife sites.

The Maitland Valley Conservation Authority acquired a part of Sharp's Creek, and opened this area for fishing. Portions of Duffin's Creek and the Humber River acquired and opened for fishing by the Metropolitan Toronto and Region Conservation

Authority. The Sydenham Valley Conservation Authority acquired the Coldstream Conservation Area which contains a fishable stream. Willoughby Marsh and Humberstone Park were enlarged as wildlife sites and opened for hunting by the Niagara Peninsula Conservation Authority. Streambank improvements, of advantage to wildlife, were made at Rowan Mills by the Big Creek Region Conservation Authority. The Buell's Creek Reservoir was filled and improved for wildlife by the Cataraqui Region Authority.

An outstanding achievement in co-operation was the agreement by the Hamilton Region Conservation Authority and the Ontario Department of Lands and Forests for controlled hunting in the vicinity of Valens Reservoir. Such agreements could be made by other authorities. A Hunter Training Safety Program was conducted co-operatively by the Metropolitan Toronto and Region Conservation Authority and the Department of Lands and Forests.

Four Conservation Authorities, Ausable, Catfish Creek, Central Lake Ontario and Sydenham Valley, have established nature sanctuaries. Wildlife sites were acquired by the Grand River, Halton Region and Niagara Peninsula authorities.

Rare, endangered, and other wildlife species have been introduced and nurtured by some authorities. The Halton Region Conservation Authority obtained Canada Geese goslings from the Toronto Island Park. These birds, now wild and unrestricted at Mountsberg Reservoir, are attracting other wild geese to the area. Junction

Creek Conservation Authority introduced 48 Mallards and Teal at Laurentian Lake; this same Authority set out eight Wood Duck nesting boxes, 50 percent of which produced broods. The Sauble Conservation Authority also set out nesting boxes for Wood Ducks.

Food and cover vegetation was planted by seven authorities: Big Creek, Cataraqui, Grand River, Halton, Hamilton, M.T.R.C.A. and Niagara Peninsula. Nurseries for wildlife shrubs were established by the Grand River, Holland Valley, M.T.R.C.A. and Upper Thames Authorities.

A large-scale winter bird-feeding program, during which 9,000 pounds of food was distributed, was carried out by the Metropolitan Toronto and Region Conservation Authority. Similar projects were undertaken by the Ausable, Catfish Creek, Credit Valley and Lower Thames Valley Authorities.



Centennial year was characterised by unusual activity in the field of public recreation. The impetus to acquaint oneself with one's own country had never been greater, and despite the many attractions across Canada, Ontarians and visitors used recreational facilities in the 145 Conservation Areas in unprecedented numbers. That this occurred is evidence of the increasingly important role of Conservation Authorities in providing accessible foci for leisure time activity, and indicates a future rapid increase in demands upon Conservation Area facilities. With intensifying interest in the interpretation of resource management situations, and growing public concern over the degradation of the natural environment (along with what may be done to arrest this trend), it becomes more difficult each year to differentiate between a simple recreation experience and a learning experience. When users are helped to recognize The Open Space crisis facing our rapidly urbanizing landscape and appreciate the social benefits accruing to the Conservation Authority programs, leisure time is being expended not only enjoyably, but beneficially. The dividends from such recreational-learning experiences form the nucleus of an ecologically-based land ethic to which the public must be dedicated if conservation is to play its required role in years to come.

During the past year a number of newsworthy events occurred in the Conservation Areas and Recreation Programs of the Authorities. There were many lesser events which individually did not seem extremely significant, but collectively represented

major advances in the overall provision of public recreation services.

The Metropolitan Toronto and Region Conservation Authority celebrated in 1967 its 10th anniversary with the Official Opening of the Black Creek Pioneer Village by Prime Minister Robarts. This historic replication is one of the finest of its kind. Plans for a visitor centre at the Black Creek Village are now in preparation.

The eight Authorities through which the Niagara Escarpment passes, grouped together to formulate a co-ordinated policy in support of Escarpment preservation, an integrated Escarpment Parks System and the work of the Provincial Study Group. A tour of the Escarpment was organized by these Authorities in the Autumn.

The Ausable Authority moved toward realization of its Parkhill Reservoir goal. A prominent firm of land planners was retained to prepare a master development plan for the area. This was presented in 1968.

In addition, development plans were under way for the Springwater Area in the Catfish Creek, the Squirrel Creek Area in the Otonabee Region, Wildwood and Gordon Pittock in the Upper Thames River Conservation Authority, as well as others.

Major land acquisition programs have been undertaken in the Ausable, Central Lake Ontario, Holland, Grand, Hamilton, M.T.R.C. A., and Sydenham

Conservation Authorities. The Conservation Foundations of the Credit and M.T.R.C.A. Authorities have been active in land acquisition efforts. The Otonabee Authority, in its Annual Report, expresses the concern of many Authorities with regard to the lack of available land for Conservation Area development, and retrospective self-criticism for not having acquired more land in the past. Land-price escalation continues to be the most serious threat to recreation space enlargement and is forcing a re-evaluation of the public benefits attached to Open Space. The upgrading of acceptable purchase prices in order to implement required programs to keep pace with demands and obligation is necessary.

Many Conservation Areas have been enlarged or enhanced with the addition of facilities. Picnic tables and fireplaces have been added at Enniskillen in the Central Lake Ontario Authority. Development has taken place in the new Buell Creek Reservoir in the Cataraqui Region, and a major cleanup project was undertaken in Central Lake Ontario's Long Sault Area. Road improvements were completed at Springwater in Catfish and Terra Cotta in the Credit. Increased use prompted the Ausable to initiate admission fees to its Port Franks, Thedford, and Rock Glen areas. The Big Creek Authority has made socially valuable use of the work services of boys from local Training Schools, a concept to be encouraged. Active interest by the Cataraqui Authority in such regional recreational facilities as the Brockville and Westport Hiking Trail and the Rideau Canal

is gratifying. The Ganaraska Authority has developed, in conjunction with the Department of Lands and Forests, 13 miles of hiking trail from Durham headquarters through the Authority forest. Major development has taken place in seven areas under the jurisdiction of the Grand River Authority. The Moira has developed new nature trails at Vanderwater Conservation Area and has added a Log School and a display of farm machinery at the O'Hara Mill. Major additions have also been made at the Pioneer Village at Fanshawe in the Upper Thames River Conservation Authority. First steps have been taken in the South Nation Authority on a recreation program. Winter sports facilities in the Halton Region's Kelso Area have proved very successful, as have the M.T.R.C.A.'s winter recreation facilities. Trails and bridges for snow mobiles have been constructed in the Holland Authority in an effort to meet the growing demand for this form of winter sport. Developments for the 1968 opening of the Mountsberg Wildlife Area in the Halton Region were underway, and retriever trials were hosted there during 1967.

The first annual staff seminar was held by the Ausable Authority in which Branch staff participated. The idea is one deserving emulation.

The Grand River Authority has initiated a program to develop a concept of architectural uniformity for all future Conservation Area buildings. Along with well conceived tree planting in several Conservation Authorities, this represents a growing

awareness of such sub-fields of recreation planning as recreational forestry and recreational architecture.

Throughout the Authorities several problems in addition to land acquisition remain prominent. The matter of vandalism in the parks, quality long-range and systems planning, maintenance of environmental quality and control of user volumes are among the most pressing issues. These and other questions will require greater attention in the future.

In 1967 the Recreation Section of the Conservation Authorities Branch completed a watershed inventory of the Rideau Authority and administered a Boat User Survey on the Rideau Canal. In addition, a study of the Redhill Creek Valley in Hamilton was completed and reported upon.

Branch staff participated in the Niagara Escarpment, Rideau Canal, Ontario Recreation and Tourism Demand Study committees and on the Inter-Departmental Recreation Liaison Committee.

Plans for 1968 involved watershed surveys and an inventory and site analysis of all existing Conservation Areas, part of which will be in co-operation with the National Recreation Facilities Inventory. It is apparent that the province is making significant progress toward integrated, long-range recreation planning and this Department is making every attempt to support and assist in this most necessary procedure.

Most conservation authorities have recognised for some time that, as the Select Committee On Conservation Authorities stated in its April, 1967 Report: "The preservation of historic sites is important to the people of the watershed and the Province."

Provincial grants have not been available for historical projects (although the Select Committee suggested that

the position be reviewed in the future), and some authorities have found that flood control and other conservation works have taken up their available funds.

One approach, which has been followed by several conservation authorities, has been to set up a Foundation which permits tax-free donations to be made.

The Metropolitan Toronto and Region's Black Creek Pioneer Village is an outstanding example of how successful this approach can be. In 1965, the Credit Valley Conservation Authority established a Foundation and the following year opened a "Turn of the Century" farm at Hillsburgh, with equipment dating from 1900.

Another annual report has told of earlier historical projects—the well-known O'Hara Mill near Madoc (the addition of a museum will add to the attractions of this area), the Backus Mill in Walsingham Township, the pioneer villages in Fanshawe Park and the Doon Conservation Area, as well as at Black Creek, which was officially opened for the 1967 season by Prime Minister Robarts.

C13—CONSERVATION AREAS — EXPENDITURES 1967/68

PROVINCIAL GRANT 50%

CONSERVATION AUTHORITY	CONSERVATION AREA	LAND ACQUISITION			DEVELOPMENT			TOTAL EXPENDITURE		
		Authority	Prov.	Total	Authority	Prov.	Total	Authority	Prov.	Total
AUSABLE RIVER	Sundry	—	—	—	910	910	1,820	910	910	1,820
BIG CREEK REGION	Backus	—	—	—	499	498	997	499	498	997
	Norfolk	—	—	—	1,058	1,058	2,116	1,058	1,058	2,116
	Norfolk County Park	—	—	—	309	308	617	309	308	617
	Rowan Mills	—	—	—	95	94	189	95	94	189
	Waterford	—	—	—	979	964	1,943	979	964	1,943
CATARAQUI REGION	Buell Creek	—	—	—	138	137	275	138	137	275
	Little Cataraqui	—	—	—	8,943	8,941	17,884	8,943	8,941	17,884
CATFISH	Spring Water	—	—	—	2,348	2,318	4,666	2,348	2,318	4,666
CENTRAL LAKE ONTARIO	Enniskillen	—	—	—	5,819	5,819	11,638	5,819	5,819	11,638
	Heber Down	—	—	—	45,229	45,230	90,459	45,229	45,230	90,459
	Long Sault	—	—	—	283	282	565	283	282	565
CREDIT VALLEY	Belfountain	—	—	—	101	101	202	101	101	202
	Forest	—	—	—	63	62	125	63	62	125
	Hillsburgh	20,225	20,225	40,450	—	—	—	20,225	20,225	40,450
	Limehouse	—	—	—	5,441	5,440	10,881	5,441	5,440	10,881
	Meadowvale	—	—	—	600	600	1,200	600	600	1,200
	Orangeville	—	—	—	16,425	16,425	32,850	16,425	16,425	32,850
	Monora	—	—	—	3,133	3,133	6,266	3,133	3,133	6,266
	Terra Cotta	—	—	—	1,926	1,925	3,851	1,926	1,925	3,851
GANARASKA REGION	Port Hope	—	—	—	176	175	351	176	175	351

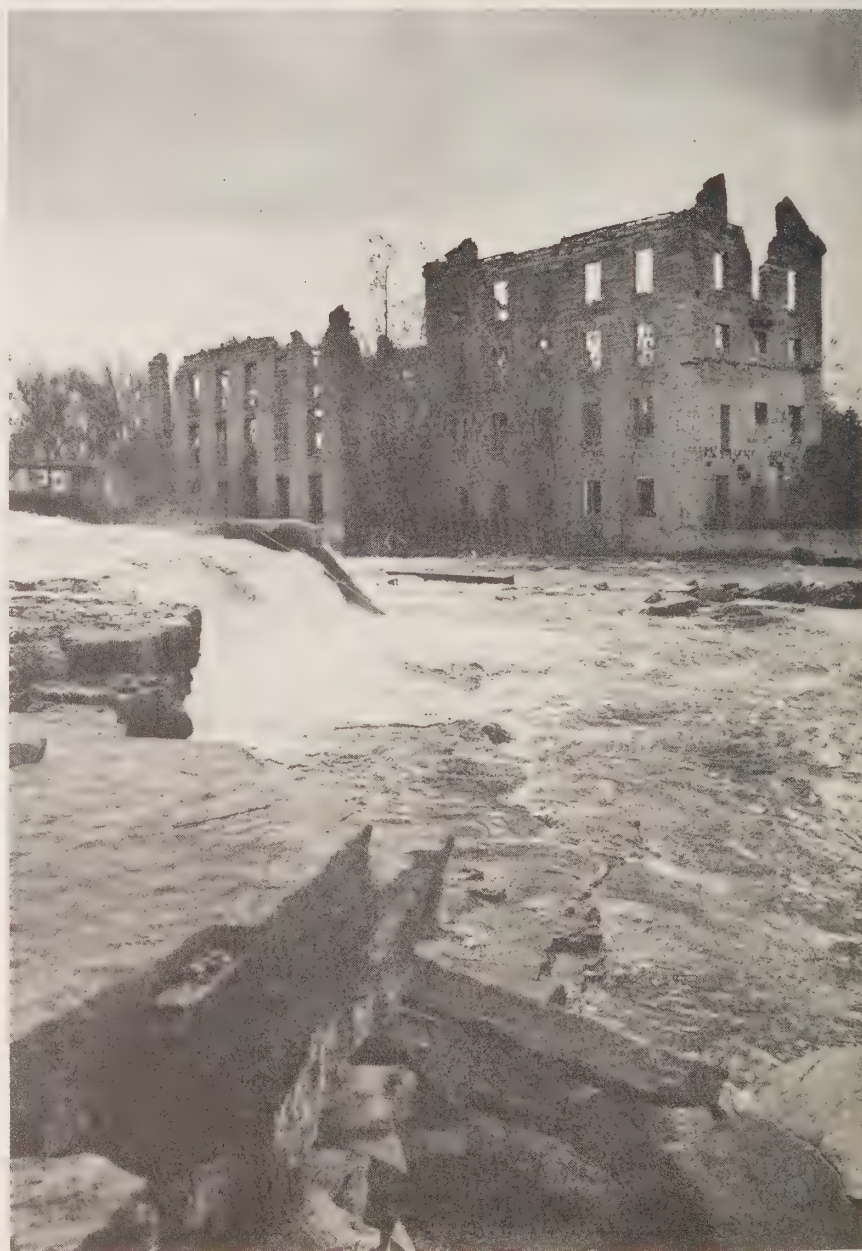
Canada's Centennial Year provided a greater incentive than usual. The Niagara Peninsula Conservation Authority restored and furnished pioneer cabins and a grist mill, to show how the Province's first settlers lived and worked in the 1780's; and the Authority's historical committee members have set themselves the task of collecting antique vehicles, tools, furniture, and other items of historical value. Plaques denoting matters of historical interest are also to be erected in certain of the Authority's areas.

The water focus of conservation authorities' work was reflected in the number of other projects in 1967 to restore old mills. Roblin's Mill, a grist and flour mill which was in use at Ameliasburg near Belleville during the years before and after Confederation, has been re-constructed with every possible attention to detail at Black Creek Pioneer Village. Other additions at Black Creek Pioneer Village have been "The Half Way House", formerly a stage coach stop on the Dunbarton-Toronto run, and a workshop rebuilt by the Snider family as a Centennial gift to be used in the "Pioneer Life Programme" (which was attended by 4,000 Toronto area students in 1967). Restoration of the mill at the Bruce's Mill Conservation Area is also under-

way. Old, as well as modern, methods of making maple syrup were shown there in the spring.

The Sault Ste. Marie Region Conservation Authority has acquired information on the history of a water-powered grist mill to be a conservation area feature. The Otonabee Region also plans to continue with the restoration of Lang's Mill, and the recently-formed Rideau Valley Conservation Authority has investigated a mill and dam site in North Augusta, (which proved to be beyond repair,) and is continuing a search elsewhere.

Such undertakings as the preservation of the Backus House, carefully investigated during the past year by the Big Creek Authority, have frequently proved to be costly. The cooperation of local societies can lessen costs in some directions, and provide fresh initiatives in others. One example in 1967 was the Kitchener-Waterloo Field Naturalists' active interest in a "Pioneer Memorial Woods" at the Grand River Authority's Doon Pioneer Village. Another cooperative venture, which benefited from existing programs, is to be found in the village and museum at Lang in Peterborough County.



C13—CONSERVATION AREAS — EXPENDITURES 1967/68 (Continued) PROVINCIAL GRANT 50%

CONSERVATION AUTHORITY	CONSERVATION AREA	LAND ACQUISITION			DEVELOPMENT			TOTAL EXPENDITURE		
		Authority	Prov.	Total	Authority	Prov.	Total	Authority	Prov.	Total
GRAND RIVER	Enlarging Authority Office	—	—	—	2,780	2,780	5,560	2,780	2,780	5,560
	Belwood	—	—	—	19,933	19,933	39,866	19,933	19,933	39,866
	Belwood & Luther	—	—	—	544	544	1,088	544	544	1,088
	Blenheim Bends	—	—	—	246	245	491	246	245	491
	Brantford-Paris	6,341	6,340	12,681	—	—	—	6,341	6,340	12,681
	Byng	—	—	—	9,100	9,100	18,200	9,100	9,100	18,200
	Conestogo	—	—	—	6,278	6,278	12,556	6,278	6,278	12,556
	F.W.R. Dickson	—	—	—	397	250	647	397	250	647
	Doon	1,062	1,062	2,124	537	537	1,074	1,599	1,599	3,198
	Elora	—	—	—	8,463	8,348	16,811	8,463	8,348	16,811
	Everton	8,524	8,524	17,048	—	—	—	8,524	8,524	17,048
	Forestry & Source Area	10,455	10,455	20,910	—	—	—	10,455	10,455	20,910
	Grand Valley	—	—	—	413	413	826	413	413	826
	Kitchener-Waterloo	1,944	1,945	3,889	—	—	—	1,944	1,945	3,889
	Laurel Creek	—	—	—	9,585	9,584	19,169	9,585	9,584	19,169
	Luther	—	—	—	825	824	1,649	825	824	1,649
	Nith Valley	—	—	—	1,746	1,746	3,492	1,746	1,746	3,492
	Oneida	—	—	—	125	125	250	125	125	250
	Pine Hurst	—	—	—	5,298	5,298	10,596	5,298	5,298	10,596
	Puslinch	—	—	—	4,686	4,686	9,372	4,686	4,686	9,372
HALTON REGION	Rockwood	7,913	7,913	15,826	13,722	10,058	23,780	21,635	17,971	39,606
	Silver Creek	—	—	—	768	768	1,536	768	768	1,536
	West Luther	—	—	—	687	625	1,312	687	625	1,312
HALTON REGION	Mountsberg	—	—	—	3,424	3,424	6,848	3,424	3,424	6,848
	Sundry	41,400	41,400	82,800	25,526	25,527	51,053	66,926	66,927	133,853
HAMILTON REGION	Furnishings & Equipment	—	—	—	92	92	184	92	92	184
	Beverly Swamp	—	—	—	3,559	3,559	7,118	3,559	3,559	7,118
	Crooks Harrow	—	—	—	438	437	875	438	437	875
	Tews Falls	5,053	5,053	10,106	7,236	7,236	14,472	12,289	12,289	24,578
	Valens	—	—	—	26,585	26,564	53,149	26,585	26,564	53,149
HOLLAND VALLEY	Bradford	6,143	6,142	12,285	6,295	6,295	12,590	12,438	12,437	24,875
	Sundry	—	—	—	364	364	728	364	364	728
JUNCTION CREEK	Garson	—	—	—	2,274	2,274	4,548	2,274	2,274	4,548
	Junction Creek	—	—	—	959	960	1,919	959	960	1,919
	Lake Laurentian	—	—	—	1,789	1,789	3,578	1,789	1,789	3,578
	New Sudbury	3,679	2,321	6,000	6,807	6,807	13,614	10,486	9,128	19,614

C13—CONSERVATION AREAS — EXPENDITURES 1967/68 (Continued)

PROVINCIAL GRANT 50%

CONSERVATION AUTHORITY	CONSERVATION AREA	LAND ACQUISITION			DEVELOPMENT			TOTAL EXPENDITURE		
		Authority	Prov.	Total	Authority	Prov.	Total	Authority	Prov.	Total
LAKEHEAD REGION	Hurkett Cove	1,659	1,659	3,318	—	—	—	1,659	1,659	3,318
	Neebing River	4,391	4,391	8,782	—	—	—	4,391	4,391	8,782
LOWER THAMES VALLEY	Furnishings & Equipment	—	—	—	594	594	1,188	594	594	1,188
	Big Bend	—	—	—	451	451	902	451	451	902
	Delaware	—	—	—	88	87	175	88	87	175
	Cornhill	—	—	—	800	800	1,600	800	800	1,600
	Harwich	—	—	—	5,461	5,461	10,922	5,461	5,461	10,922
MAITLAND VALLEY	Longwoods Road	—	—	—	2,964	2,778	5,742	2,964	2,778	5,742
	Falls Reserve	—	—	—	4,613	4,613	9,226	4,613	4,613	9,226
	Millstream	—	—	—	238	237	475	238	237	475
	Saratoga	2,399	2,399	4,798	—	—	—	2,399	2,399	4,798
	Sundry	—	—	—	238	238	476	238	238	476
	Wroxeter	—	—	—	579	578	1,157	579	578	1,157
METROPOLITAN TORONTO AND REGION	Albion Hills	3,422	3,421	6,843	30,143	30,143	60,286	33,565	33,564	67,129
	Black Creek	—	—	—	47,980	47,979	95,959	47,980	47,979	95,959
	Boyd	—	—	—	23,396	23,396	46,792	23,396	23,396	46,792
	Bruce Mills	—	—	—	15,253	15,253	30,506	15,253	15,253	30,506
	Claireville	—	—	—	43,454	43,454	86,908	43,454	43,454	86,908
	Claremont	—	—	—	5,293	5,293	10,586	5,293	5,293	10,586
	Cold Creek	—	—	—	11,807	11,806	23,613	11,807	11,806	23,613
	Glen Haffy	—	—	—	7,670	7,670	15,340	7,670	7,670	15,340
	Glen Major	63,161	63,100	126,261	320	319	639	63,481	63,419	126,900
	Greenwood	—	—	—	11,587	11,586	23,173	11,587	11,586	23,173
	Heart Lake	—	—	—	14,209	14,208	28,417	14,209	14,208	28,417
	Humber Trails	—	—	—	717	716	1,433	717	716	1,433
	McMichael	—	—	—	—	30,313	30,313	—	30,313	30,313
	Milne	—	—	—	1,040	1,039	2,079	1,040	1,039	2,079
	Nashville	—	—	—	1,467	1,466	2,933	1,467	1,466	2,933
	Palgrave Forest	—	—	—	387	386	773	387	386	773
	Petticoat Creek	—	—	—	376	375	751	376	375	751
	Pickering	—	—	—	227	227	454	227	227	454
	Lower Rouge	—	—	—	10,136	10,135	20,271	10,136	10,135	20,271

C13—CONSERVATION AREAS – EXPENDITURES 1967/68 (Continued)

PROVINCIAL GRANT 50%

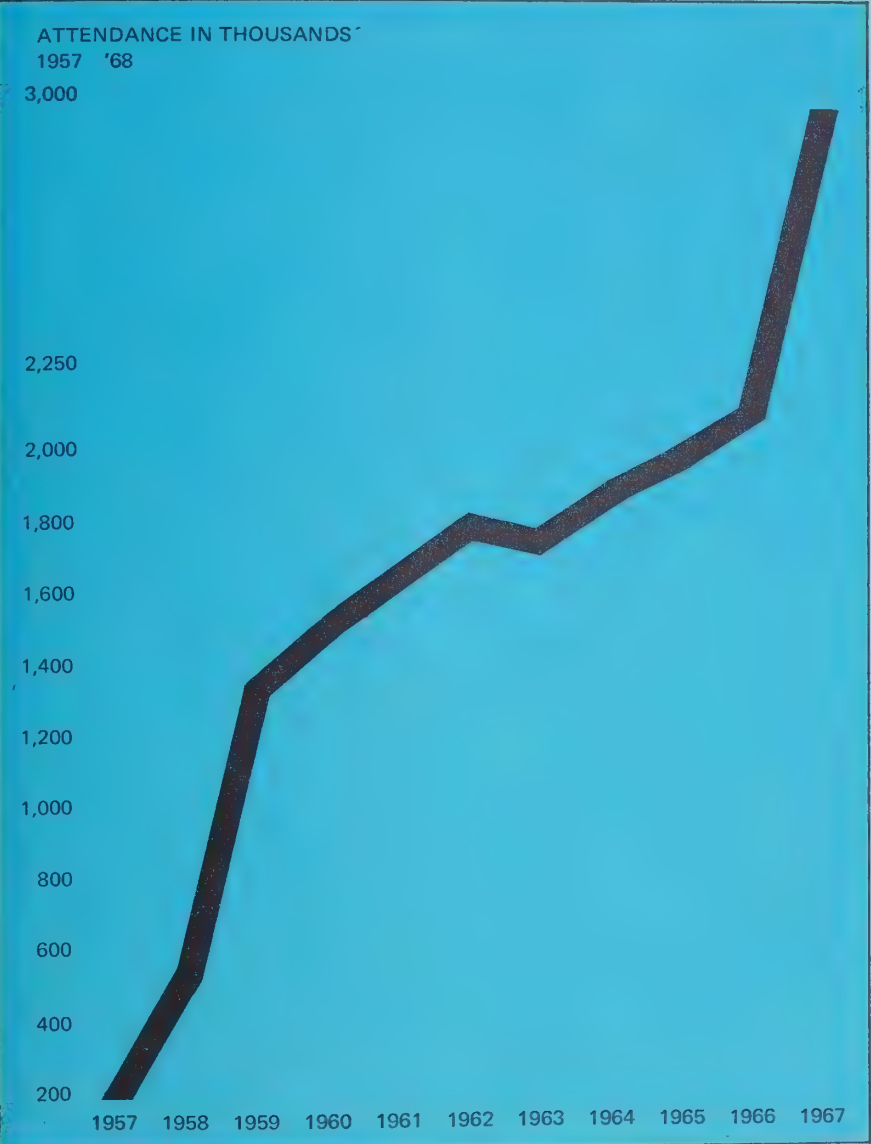
CONSERVATION AUTHORITY	CONSERVATION AREA	LAND ACQUISITION			DEVELOPMENT			TOTAL EXPENDITURE		
		Authority	Prov.	Total	Authority	Prov.	Total	Authority	Prov.	Total
METROPOLITAN TORONTO AND REGION	Lake St. George	—	—	—	1,054	1,054	2,108	1,054	1,054	2,108
	Stouffville Forest	—	—	—	145	144	289	145	144	289
	Woodbridge	—	—	—	1,435	1,435	2,870	1,435	1,435	2,870
MOIRA RIVER	Col. Roscoe	—	—	—	750	750	1,500	750	750	1,500
	O'Hara Mill	—	—	—	1,159	1,157	2,316	1,159	1,157	2,316
	Sundry	—	—	—	149	149	298	149	149	298
NAPANEE REGION	Office Furnishings	—	—	—	172	172	344	172	172	344
NIAGARA PENINSULA	Balls Falls	—	—	—	240	240	480	240	240	480
	Beamer Memorial	3,131	3,131	6,262	—	—	—	3,131	3,131	6,262
	Chippawa Creek	—	—	—	2,686	2,686	5,372	2,686	2,686	5,372
	Hedley Forest	47	47	94	—	—	—	47	47	94
	Humberstone Marsh	33	32	65	—	—	—	33	32	65
	Long Beach	—	—	—	1,574	1,573	3,147	1,574	1,573	3,147
	St. Johns	3,530	3,530	7,060	262	261	523	3,792	3,791	7,583
	Willoughby	2,054	1,522	3,576	—	—	—	2,054	1,522	3,576
NORTH GREY REGION	Ainslie Wood	—	—	—	862	862	1,724	862	862	1,724
	Beaver Valley	—	—	—	18	18	36	18	18	36
	Bognor	—	—	—	551	551	1,102	551	551	1,102
	Eugenia	—	—	—	1,260	1,260	2,520	1,260	1,260	2,520
	Inglis Falls	2,128	2,128	4,256	2,438	2,437	4,875	4,566	4,565	9,131
	Meaford	—	—	—	2,736	2,735	5,471	2,736	2,735	5,471
	Owen Sound	—	—	—	563	564	1,127	563	564	1,127
	Peasmarsh	—	—	—	500	500	1,000	500	500	1,000
	Pottawatomi	—	—	—	37	37	74	37	37	74
	West Rocks	6,271	6,271	12,542	352	352	704	6,623	6,623	13,246
NOTTAWASAGA VALLEY	Alliston	—	—	—	500	500	1,000	500	500	1,000
	Edenvale	—	—	—	1,603	1,250	2,853	1,603	1,250	2,853
	Nottawasaga (Twp)	745	744	1,489	—	—	—	745	744	1,489
	Tottenham Pond	46	46	92	3,085	2,500	5,585	3,131	2,546	5,677
OTONABEE REGION	Renovations & Equipment	—	—	—	323	323	646	323	323	646
	Chemony	—	—	—	636	636	1,272	636	636	1,272
	Heber Rogers	—	—	—	545	545	1,090	545	545	1,090
	Lang Mill	—	—	—	561	561	1,122	561	561	1,122

C13—CONSERVATION AREAS — EXPENDITURES 1967/68 (Continued)

PROVINCIAL GRANT 50%

CONSERVATION AUTHORITY	CONSERVATION AREA	LAND ACQUISITION			DEVELOPMENT			TOTAL EXPENDITURE		
		Authority	Prov.	Total	Authority	Prov.	Total	Authority	Prov.	Total
OTONABEE REGION	Squirrel Creek	2,186	2,185	4,371	790	790	1,580	2,976	2,975	5,951
	Warsaw	—	—	—	575	575	1,150	575	575	1,150
	Whitfield Landing	—	—	—	395	394	789	395	394	789
OTTER CREEK	Norwich	—	—	—	1,046	1,045	2,091	1,046	1,045	2,091
	Port Burwell	—	—	—	164	163	327	164	163	327
RIDEAU VALLEY	Establish Authority Office	—	—	—	1,495	1,495	2,990	1,495	1,495	2,990
SAUBLE VALLEY	Arram Lake	—	—	—	353	350	703	353	350	703
	Indian Falls	—	—	—	24	23	47	24	23	47
	MacNabb Lake	—	—	—	242	243	485	242	243	485
	Slough of Despond	2,323	2,323	4,646	—	—	—	2,323	2,323	4,646
SAUGEEN VALLEY	Establish Authority Office	—	—	—	5,206	5,000	10,206	5,206	5,000	10,206
	Durham	—	—	—	12,422	12,413	24,835	12,422	12,413	24,835
	Sundry	—	—	—	7,222	7,222	14,444	7,222	7,222	14,444
SYDENHAM VALLEY	Alvinston	—	—	—	10,912	10,912	21,824	10,912	10,912	21,824
	Coldstream	3,511	3,511	7,022	—	—	—	3,511	3,511	7,022
	Petrolia	—	—	—	525	525	1,050	525	525	1,050
	Shetland	—	—	—	452	452	904	452	452	904
UPPER THAMES RIVER	Fanshaw	—	—	—	1,107	1,107	2,214	1,107	1,107	2,214
	Pittock	—	—	—	2,628	2,627	5,255	2,628	2,627	5,255
	J. Cameron Wilson	—	—	—	6,597	6,597	13,194	6,597	6,597	13,194
	Wildwood	—	—	—	12,714	12,714	25,428	12,714	12,714	25,428
	Sundry Reforestation	—	—	—	2,262	2,262	4,524	2,262	2,262	4,524
WHITSON VALLEY	Whitson Lake Study	—	—	—	300	300	600	300	300	600
	TOTALS:	\$213,776	\$211,820	\$425,596	\$601,071	\$625,952	\$1,227,022	\$814,847	\$837,772	\$1,652,619

C14-ATTENDANCE AT CONSERVATION AREAS 1957-1967



C15-CONSERVATION LANDS AND DEVELOPED RECREATION AREAS, 1967

Authority	Total Acreage	Acreage Acquired 1967	Acreage Improved 1967	Acres Per 1000 Persons	Attendance 1967
AUSABLE	2,062	35	178	8.8	52,500
BIG CREEK	762	NIL	34	1.6	138,800
CATARAQUI	1,423	NIL	11	11.2	2,000
CATFISH	93	—	—	6.8	—
CENTRAL LAKE	502	3	125	4.7	200
CREDIT	410	—	155	3.3	96,700
CROWE	—	—	—	0	—
GANARASKA	157	—	—	9.2	N/E
GRAND RIVER	20,160	383	995	4.7	740,300
HALTON	2,363	—	25	1.7	189,800
HAMILTON	731	105	240	.2	20,000
HOLLAND	646	139	90	1.7	21,700
KETTLE CREEK	—	—	—	0	—
JUNCTION CREEK	1,304	—	—	16.1	2,450
LAKEHEAD REGION	233	200	—	2.1	—
LOWER THAMES VALLEY	353	74	—	5.5	N/E
MAITLAND	229	—	—	5.4	2,000
MATTAGAMI VALLEY	—	—	—	0	—
METRO TORONTO	11,170	434	260	5.6	1,158,863
MOIRA RIVER	625	85	135	1.7	24,000
NAPANEE REGION	835	—	—	4.3	500
NIAGARA PENINSULA	765	—	390	2.3	144,708
NORTH GREY	315	63	5	.9	40,000
NOTTAWASAGA VALLEY	140	—	—	2.6	8,250
OTONABEE REGION	759	—	413	9.8	16,500
OTTER CREEK	68	—	28	3.3	19,000
PRINCE EDWARD REGION	—	—	—	0	—
RAISIN RIVER	—	—	—	0	—
RIDEAU VALLEY	—	—	—	0	—
SAUBLE VALLEY	200	200	—	18.4	N/E
SAUGEEN VALLEY	253	—	89	4.9	54,100
SAULT STE. MARIE REGION	—	—	—	0	—
SOUTH NATION RIVER	281	—	—	4.5	—
SYDENHAM VALLEY	588	66	90	1.1	44,000
UPPER THAMES RIVER	5,926	—	10	2.0	194,830
WHITSON VALLEY	—	—	—	0	—
TOTAL	53,353	1,787	3,273		2,971,201

C16—EXPENDITURES FOR ACQUISITION AND DEVELOPMENT OF LAND UNDER THE PARKS ASSISTANCE ACT(1960 to 1968)

MUNICIPALITY	GRANT AUTHORIZED	EXPENDITURES		
		Municipality	Province	Total
Anson, Hindon and Minden (Twp.)	10,000	5,674	5,675	11,349
Bath (Village)	7,750	—	—	—
Bexley (Twp.)	38,000	33,313	33,313	66,626
Blind River (Town)	12,000	4,438	4,439	8,877
Bobcaygeon (Village)	30,500	25,531	25,530	51,061
Camden, E. (Twp.)	21,750	6,555	6,555	13,110
Cape Crocker (Reservation)	49,950	37,835	36,898	74,733
Cobourg (Town)	22,500	19,454	19,454	38,908
Cochrane (Town)	10,350	7,575	7,574	15,149
Dysart et. al. (Twp.)	15,000	—	—	—
Elliott Lake I.D.	2,500	—	—	—
Essa (Twp.)	5,000	—	—	—
Fort William (City)	50,000	49,648	49,554	99,202
Garden River (Reservation)	10,000	—	—	—
Goderich (Town)	5,000	2,634	2,634	5,268
Gore Bay (Town)	2,500	—	—	—
Haldimand (County)	26,350	18,001	18,001	36,002
Huntsville (Town)	23,750	10,170	10,170	20,340
Innisfill (Twp.)	44,950	17,957	16,591	34,548
Iroquois (Town)	15,000	899	899	1,798
Kenora (Town)	48,016	41,813	41,595	83,408
Kettle Point (Reservation)	21,525	15,027	15,027	30,054
Leamington (Town)	56,150	33,770	33,769	67,539
Listowel (Town)	7,500	10,892	8,185	19,077
Little Current (Town)	20,000	14,609	14,609	29,218
Orillia (Town)	60,730	54,970	54,957	109,927
Orillia (Twp.)	8,500	6,852	6,852	13,704
L'Orignal (Village)	26,000	22,753	22,752	45,505
Owen Sound (City)	27,500	21,490	21,490	42,980
Pembroke (Town)	26,250	—	—	—
Peterborough (City)	75,600	64,523	64,522	129,045
Plympton (Twp.)	20,000	—	—	—
Port Arthur (City)	61,000	33,639	33,639	67,278



C16—EXPENDITURES FOR ACQUISITION AND DEVELOPMENT OF LAND UNDER THE PARKS ASSISTANCE ACT (1960 to 1968) (Cont.)

MUNICIPALITY	GRANT AUTHORIZED	EXPENDITURES		
		Municipality	Province	Total
Portland (Twp.)	2,000	—	—	—
Port Perry	2,500	798	798	1,596
Rama (Reservation)	4,500	—	—	—
Rayside (Twp.)	15,000	14,517	14,516	29,033
Sarnia (City)	65,550	60,706	58,563	119,269
Saugeen (Twp.)	5,000	—	—	—
Sault Ste. Marie (City)	50,000	50,177	50,000	100,177
Shuniah (Twp.)	5,100	2,888	2,888	5,776
Six Nations (Reservation)	4,750	3,604	3,603	77,207
Southampton (Town)	15,000	9,619	9,619	19,238
Sudbury (City)	78,485	79,011	77,350	156,361
Sundridge (Village)	1,000	—	—	—
Sutton (Village)	37,500	—	—	—
Terrace Bay (Twp.)	6,000	—	—	—
Thessalon (Town)	27,300	13,498	13,498	26,996
Walpole Island (Reservation)	5,000	—	—	—
Walsingham N. (Twp.)	7,500	6,084	6,084	12,168
Wiarton (Town)	2,000	1,182	1,182	2,364
Wingham (Town)	37,490	21,371	21,371	42,742
TOTALS:	\$1,233,296	\$823,477	\$814,156	\$1,637,633

The Parks Assistance Act was passed by legislature in 1960. By this Act, provision was made for the payment to municipalities of grants of 50 per cent, up to a maximum grant of \$50,000 of the cost of acquisition, planning and development of municipal parks as public recreational areas complementary to provincial parks. During the 1966 session of the legislature, legislation was passed which increased the maximum total grants to \$100,000, of which sum a maximum of \$25,000 would apply on the cost of land acquisition.

Under an amendment to the Act which was passed in 1962, Indian Bands may participate in all benefits available under the Act. This places at their disposal, on the same basis as for urban and rural municipalities throughout the Province, much-needed assistance in the acquisition and development of revenue-producing camping and picnicking areas on Indian Reserve lands.

In order to qualify for a grant under the Act, a municipality must provide sites for overnight tent and trailer camping and a supply of safe drinking water, as well as picnic and sanitary facilities, entrances controlling admission to the park and the collection of fees which are not less than those charged in provincial parks. However, by a 1967 amendment to the Regulations under this Act, these requirements may be waived where the purpose of the park is to develop and utilize a natural beach for recreation purposes.

Other development work in Approved Parks which is eligible for grants includes the construction of service roads, picnic shelters, boat docking and other facilities for aquatic and winter sports, washing and cooking.

C17—EXPENDITURES FOR ACQUISITION AND DEVELOPMENT OF LAND UNDER THE PARKS ASSISTANCE ACT – FISCAL YEAR ENDING MARCH 31, 1968

	EXPENDITURE		
	Municipality	Province	Total
Anson, Hindon and Minden (Twp)	5,674	5,675	11,349
Bexley (Twp)	1,575	1,575	3,150
Bobcaygeon (Village)	3,966	3,965	7,931
Cape Crocker (Reservation)	11,247	11,246	22,493
Cobourg (Town)	7,447	7,447	14,894
Cochrane (Town)	314	313	627
Haldimand (County)	6,063	6,063	12,126
Huntsville (Town)	3,057	3,057	6,114
Kettle Point (Reservation)	5,778	5,778	11,556
Leamington (Town)	5,540	5,539	11,079
Listowel (Town)	4,185	4,185	8,370
Little Current (Town)	14,609	14,609	29,218
Orillia (Town)	2,259	2,260	4,519
L'Orignal (Village)	4,233	4,232	8,465
Peterborough (City)	8,766	8,765	17,531
Port Arthur (City)	8,163	8,163	16,326
Rayside (Twp)	1,943	1,942	3,885
Sarnia (City)	8,564	8,563	17,127
Shuniah (Twp)	69	69	138
Sudbury (City)	42,245	42,121	84,366
Thessalon (Town)	3,241	3,241	6,482
Wingham (Town)	517	517	1,034
TOTALS:	\$149,455	\$149,325	\$298,780



HIGHLIGHTS

Ontario's total energy consumption in 1967 exceeded the 1966 total by 5 percent. Natural gas consumption, 14 percent above 1966 consumption, experienced the greatest annual increase for individual fuels.

Oil production in Ontario was 1,240,298 barrels in 1967, a decrease of 6 percent from the 1966 level. Similarly, natural gas production dropped 8.5 percent to 14,218.1 million cubic feet.

During 1967, for the first time, all the available oil and gas rights for Lake Erie—some 3.1 million acres—were leased from the Crown. Six new gas pools, in total, were discovered in Lake Erie; and these are expected to add appreciably to Ontario's ultimate recoverable reserves of natural gas.

In early 1967, the oil and gas rights to one million acres of the Hudson Bay-James Bay Lowland area were obtained from the Crown.

Ontario produced over 3,100 tons of uranium oxide during 1967, representing over 75 percent of total uranium production in Canada.

INTRODUCTION

Ontario, through the Energy Branch of this Department, is responsible for the administration of regulations by legislative authority of The Energy Act, 1964, governing the following:

- 1. Drilling for and production of oil and gas;
- 2. Transmission and storage of gas;
- 3. Distribution and utilization of gas, propane and fuel oil.

The responsibilities of the Branch were expanded to include gasoline handling under the terms of The Gasoline Handling Act, 1966.

The Acts, the Regulations and the Codes, are subject to continuing improvement and expansion in keeping with the greatly increased use of hydrocarbon fuels in the Province. The Branch develops, issues and administers safety codes for the fuel industry and the public. Maintenance of safe operations and practices is achieved by inspection and licencing. Training of industry personnel and public education have become significant functions of the Branch.

The objective of the Energy Branch is to cultivate and maintain a safe and adequate hydrocarbon fuel base within the energy sector of Ontario. This objective is being achieved through the continuing execution of the regulatory function in the areas of fuel safety and resources management and through the concurrent appraisal of significant matters affecting the energy sector.

ENERGY STUDIES SECTION

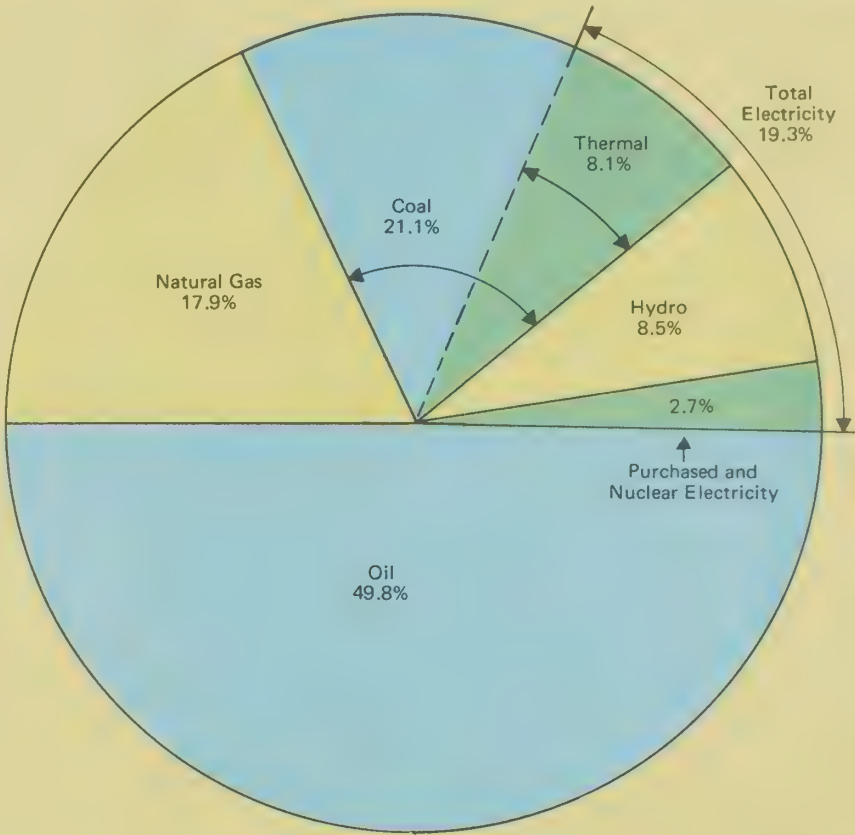
The Energy Studies Section, responsible for ensuring the fullest appreciation of the complex energy field in Ontario, provides continuing support and advisory services within the Branch.

The Section maintains a record of provincial oil and gas statistics and develops informative appraisals of matters evolving within the energy sector. It performs, as required, special studies on technological and economic developments affecting the supply, distribution and utilization

of all fuels, including electricity, nuclear energy and fossil fuels, insofar as these energy sources contribute to the provincial energy balance.

Increased liaison with industry, other provinces and the Federal Government is becoming more important. Demand for all forms of energy is growing, and the Province must obtain increasing supplementary supplies from sources beyond its borders.

Figure 1—PRIMARY ENERGY CONSUMPTION BY SOURCE AS PERCENT OF TOTAL CONSUMPTION FOR 1967



PRIMARY ENERGY CONSUMPTION IN ONTARIO

Primary energy consumption may be defined here as the input or consumption of the initial energy source and includes primary energy lost in the transformation process. For instance, one kilowatt-hour of electricity of 3,412 BTU's produced is assumed to require 10,000 BTU's of heat input from coal or nuclear fuel used in thermal generating stations.

A measure of each energy source's participation in the total energy picture is achieved by converting each to its heat equivalent measured in British Thermal Units (BTU). The following charts illustrate the relative magnitude of primary energy consumption in Ontario for 1967 based on estimates produced by the Branch.

The total primary energy consumption in 1967 was nearly $1,800 \times 10^{12}$ BTU's, a 5.0 percent annual increase compared to 3.9 percent in 1966.

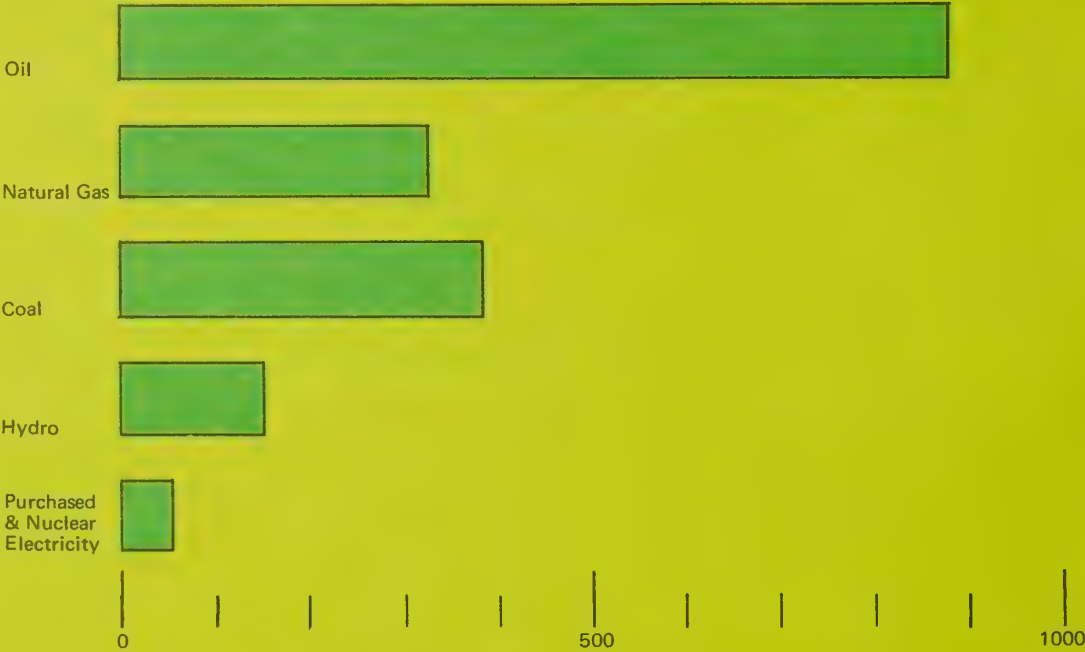
Oil continues to dominate the energy sector of the economy but indications are that it is slowly losing ground to natural gas and electricity which currently are achieving the highest growth rates. Coal's loss of participation in most fuel markets is being minimized by increasing demand for electrical generation. Primary electricity from water and nuclear power represents 8.6 percent of total energy consumption. However, total electricity is 19.3 percent, reflecting increasing use of coal-fired generating stations. Electricity purchased from other utility systems outside Ontario represents a supply deficiency within the Province.

E1-ONTARIO ENERGY CONSUMPTION

ANNUAL PERCENT INCREASE

	1967	1966
Oil	4.9	2.1
Natural Gas	14.1	10.1
Coal	2.2	- 1.3
Electricity (primary & secondary)	8.4	7.3
Total Primary Energy	5.0	3.9

Figure 2-PRIMARY ENERGY CONSUMPTION IN ONTARIO 1967 IN 10^{12} BTU's



Ontario crude oil production continued to account for around one percent of total refinery requirements despite a 6 percent reduction from the 1966 level. No additional refinery capacity was added in 1967. However, the main reason for the absence of increased supply of crude oil from Western Canada was limited pipeline capacity. Petroleum product transfers from other provinces and imports are expected to continue to increase until current pipeline expansion

projects are completed. Products movements from other provinces, mainly Quebec, and imports increased by 11 percent over 1966.

Refined petroleum products sales in Ontario increased to more than 143 million barrels, a 5 percent increase over sales in 1966. The corresponding increase for total Canada was 6.8 percent. Ontario continued to account for around 33 percent of total sales in Canada.

E3—ONTARIO OIL BALANCE SHEET 1967 *

SUPPLY	Quantities in Thousands of Barrels	Percent of Total
Crude Oil ** — Ontario Production	1,240	0.8
— Imports from Western Provinces	111,704	71.6
— Imports from Venezuela	445	0.3
— Net Transfers and Other Materials	1,145	0.7
— Total Run to Stills	114,534	73.4
Products — Transfers from Other Provinces	30,268	19.4
— Imports	9,057	5.8
— Other Receipts	2,101	1.4
— Total Product Receipts	41,426	26.6
Total Supply	155,960	100.0
DISPOSITION		
Consumption — Customer Sales	143,347	91.9
— Company Use	8,786	5.6
— Total Consumption	152,133	97.5
Other — Transfers to Other Provinces	3,420	2.2
— Exports	1,073	0.7
— Product Inventory Changes	- 850	- 0.5
— Losses	184	0.1
Total Disposition	155,960	100.0

* Based on data from DBS Monthly Reports, No. 45-004.

** Crude oil, condensate and pentanes plus, commingled propane and butane mixes.

E2—CANADIAN OIL REQUIREMENTS IN PER CENT OF TOTAL FOR 1967

	Ontario	Prairies and NWT	Quebec and Maritimes	B.C.	Total
Crude Receipts					
Canadian	24.8	16.2	—	8.2	49.2
Imported	0.1	0	35.6	0	35.7
Total	24.9	16.2	35.6	8.2	84.9
Net Product Imports	1.7	0.1	11.5	1.0	14.3
Provincial Transfers*	6.3	- 1.6	- 4.4	0.5	0.8
Total Consumption	32.9	14.7	42.7	9.7	100.0

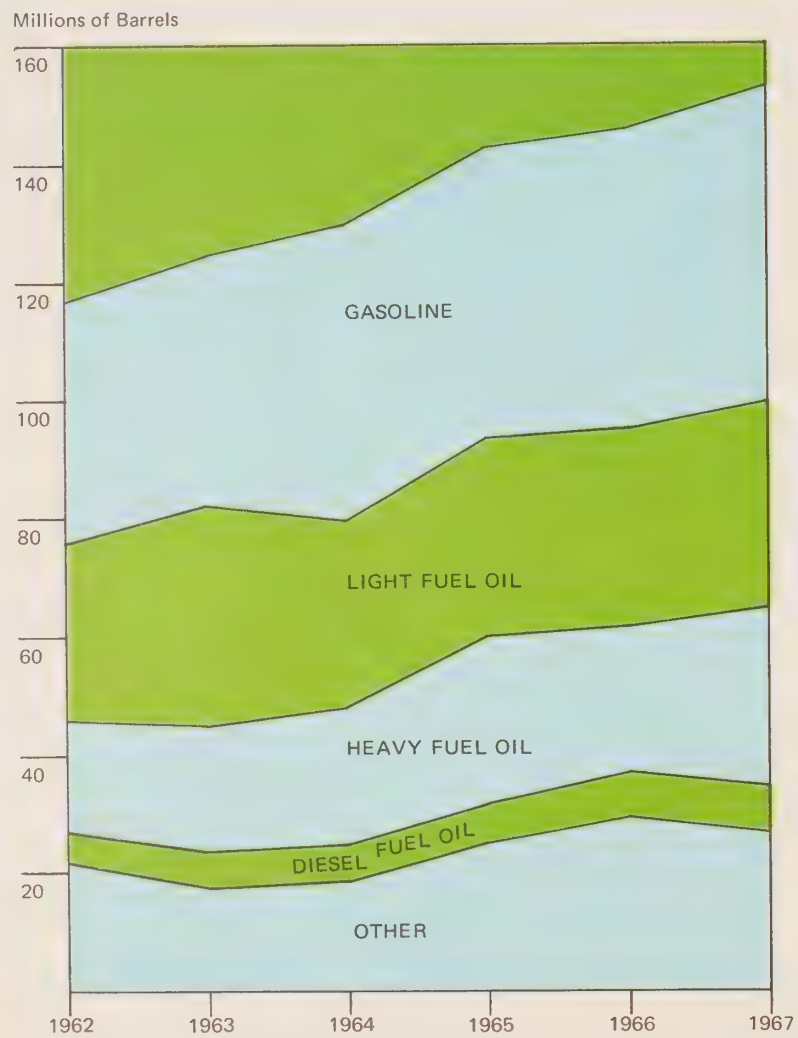
* Product transfers between provinces plus other materials to stills plus inventory changes.

E4—OIL REFINERIES IN ONTARIO — 1967

Company	Location	Crude Oil Capacity in barrels per calendar day
B.A. Oil	Clarkson	55,400
B.P. Refinery	Oakville	32,000
Imperial Oil	Sarnia	94,000*
Texaco (Regent Refining)	Port Credit	37,000
Shell Canada	Oakville	34,000
	Sarnia	40,000
Sun Oil	Sarnia	30,000
Total (7 refineries)		322,400

* Additional capacity of 28,000 b/d, originally scheduled for completion in 1967, was deferred to 1968 so that new addition totalling 36,000 b/d could be made giving new total of 130,000 b/d.

Figure 3—CONSUMPTION OF PETROLEUM PRODUCTS IN ONTARIO 1962 – 1967



Other — Petro-chemical feed-stocks, aviation fuels, Kerosene, asphalt, etc.



NATURAL GAS IN ONTARIO.

Sales of natural gas to consumers in the province during 1967 increased nearly 16 percent, and accounted for over 40 percent of total sales in Canada, compared with 34 percent in 1966. Receipts from Western Canada decreased slightly, continuing the 1966 trend of relatively stable supplies from this source. The bulk of the consumption increase was provided for by advances over 1966 of nearly 60 percent more imports from the U.S.A. and 40 percent greater withdrawals from storage, augmented by 4 percent less deposits into storage. Gas used in transmission operations accounted for around 9 percent of total Western Canada receipts, as in 1966. A decrease of over 8 percent in production from Ontario wells reduced its contribution to total requirements to around 4 percent from more than 5 percent in 1966.

The initial 157-mile section of the new pipeline from Western Canada, completed during the year from the central part of Michigan to near Sarnia, accounted for nearly 20 percent of U.S. imports. Completion of the remaining 830 miles of this project is planned for the Fall of 1968 when a large part of the gas from Western Canada destined for Ontario will be transported through the new pipeline.

Ontario's 16 percent sales increase was a material addition over the corresponding 1966-65 advance of 10 percent and compares with the 1965-64 increase of 14 percent. Industrial users once again accounted for only as much as 1 percent of the total number of customers, while representing nearly 50 percent of the total sales volume.

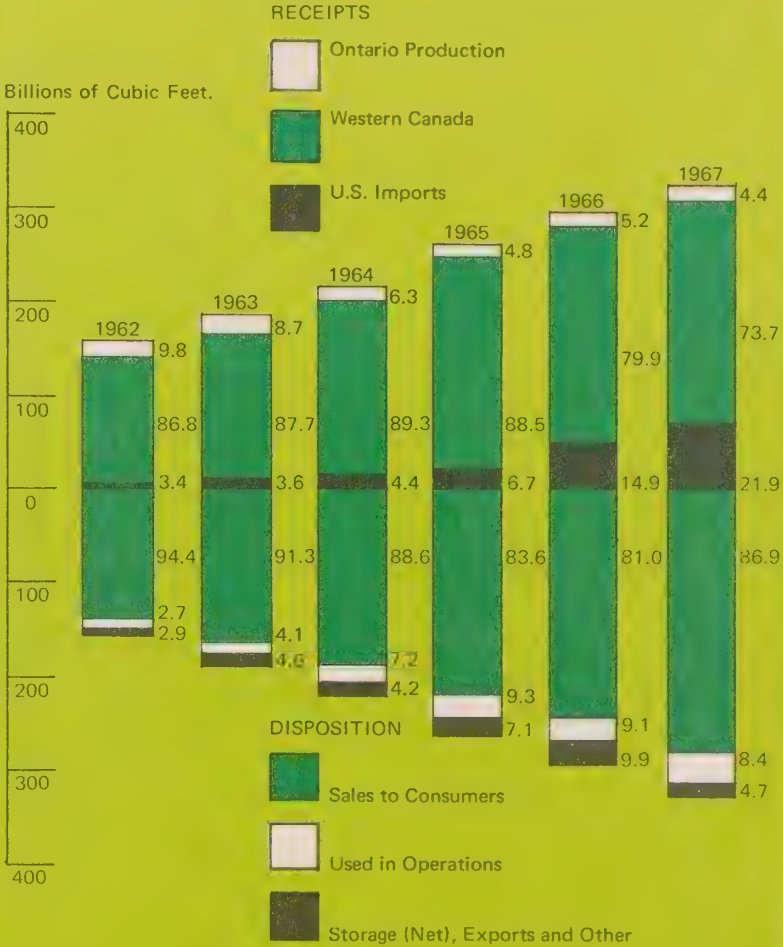
This represented advances of over 2 percent in the number of industrial customers and nearly 20 percent in industrial consumption of natural gas during 1967, compared to similar increases of over 4 percent and 11 percent respectively during the previous year. Consumption by residential and commercial users increased by over 8 and 18 percent respectively compared with corresponding 1966-65 advances of over 4 and nearly 18 percent. A levelling off in the annual growth rate of all three categories of customers is further indicated by the 1967 increases of nearly 2 percent in residential and 5 percent in commercial, compared with corresponding advances of over 3 and under 7 percent in 1966 and 4 and 7 percent in 1965.

LIQUEFIED NATURAL GAS

A significant innovation in the natural gas industry is the large-scale storage of natural gas as a liquid. Natural gas, when liquefied at minus 260 degrees F., increases in density by a factor of 630 compared to the gas at normal temperature and pressure.

Northern and Central Gas Corporation Limited is constructing on its Sudbury lateral at Hagar a liquefied natural gas peak shaving plant, scheduled for completion during the summer of 1968. This facility, with an equivalent gas capacity of 600 million cubic feet, will be available for peaking requirements during the heating season.

Figure 4—NATURAL GAS RECEIPTS AND DISPOSITION 1962-1967
EXPRESSED AS PERCENTAGES OF TOTAL QUANTITIES

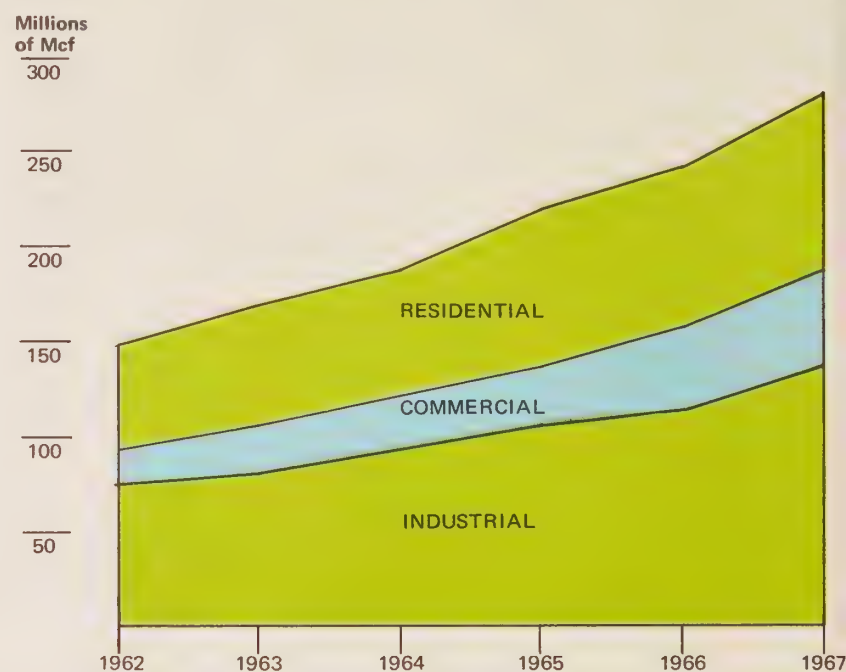


E5—ONTARIO GAS BALANCE 1967

	Thousands Cubic Feet*	Percent of Total
SUPPLY		
Ontario production	14,218,140	4.4
Imports from:		
Western Canada	236,709,579	73.7
U.S.A.	<u>70,350,013</u>	21.9
	<u>307,059,592</u>	
Total Supply	<u><u>321,277,732</u></u>	<u>100%</u>
DISPOSITION		
Sales to customers	279,190,901	86.9
Free Gas	54,447	
Company Use	<u>26,874,458</u>	8.4
	<u>26,928,905</u>	
Total Consumption	<u>306,119,806</u>	95.3
Gas to Storage (Net)	5,389,000	1.7
Gas to Province of Quebec	3,269,530	1.0
Exports to U.S.A.	3,993,845	1.2
Metering, line loss & other unaccounted for	<u>2,505,551</u>	0.8
	<u>15,157,926</u>	
Total Disposition	<u><u>321,277,732</u></u>	<u>100%</u>

* at 14.73 p.s.i.a.

Figure 5—NATURAL GAS SALES IN ONTARIO 1962-1967



E6—NATURAL GAS SALES IN ONTARIO IN 1967

COMPARATIVE TOTALS BY CUSTOMER CATEGORIES

Quantities in Thousands Cubic Feet

Category of Customer	1967		Per Cent Changes 1967			
	Number of Customers	Quantities	over 1966		over 1962	
			Number of Customers	Quantities	Number of Customers	Quantities
Residential	664,460	88,962,786	+1.9	+ 8.6	+24.0	+ 60.8
Commercial	58,645	50,860,987	+4.7	+18.4	+35.7	+169.1
Industrial	7,185	139,367,128	+2.6	+19.9	+30.4	+ 86.0
Totals	730,290	279,190,901	+2.1	+15.8	+24.8	+ 87.2

PIPELINES IN ONTARIO

Extensions and improvements of pipeline facilities, to serve both the increasing requirements of the existing markets and the needs of new customers, accounted for considerable activity and expenditure in the industry.

The major construction project for the Union Gas Company of Canada was the extension of the 34-inch diameter main transmission line for 37 miles to a point near the city of Hamilton. This was the third step in the program to loop completely the present 142 mile,, 26-inch diameter, high-pressure pipeline extending from the Dawn compressor station to the point of connection with the facilities of Trans-Canada Pipe Lines Limited at Oakville. The 18.5 miles of pipeline required to complete this entire project is expected to be constructed at a future date when needed.

Consumers' Gas Company completed an extension of their existing 30-inch transmission line located in the north-western section of Metropolitan Toronto from Keele Street to Yonge Street.

Major projects of Northern and Central Gas Corporation included: the construction of the Atikokan Town lateral, which required 7.1 miles of 6- and 8-inch transmission line and construction of the Atikokan distribution system;

- an 80-mile, 8-inch transmission line was constructed to serve the Griffith Mine at Bruce Lake, and a short lateral and distribution system was constructed to serve the community of Ear Falls;
- extensive improvements were made to the distribution system and propane-air plant in Sault Ste. Marie (natural gas is expected to reach Sault Ste. Marie by the end of 1968 as part of the Great Lakes Gas Transmission project);
- a major feeder main, consisting of two miles of 8-inch pipe, was installed to supplement the North Bay distribution system;
- and the construction of several distribution systems in whole or part was completed at Trenton and Brunetville (near Kapuskasing).

In 1967, Trans-Canada Pipe Lines Limited completed 15 miles of 36-inch pipeline from the international boundary near Sarnia to storage fields in Dawn Township and the first 19 miles of 36-inch loop line of its 30-inch system in eastern Manitoba and northern Ontario.

Interprovincial Pipe Line Company initiated the first looping on the 20-inch crude oil line between Sarnia and Port Credit with the construction of 56 miles of 20-inch pipe in 1967.

E7—NATURAL GAS PIPELINES IN ONTARIO LENGTH IN MILES

	Gathering and Transmission	Distribution	Total
1967	4,752	14,090	18,842
1966	4,670	13,286	17,956
1965	4,891	12,291	17,182
1960	4,464	9,493	13,957
1955	2,507	4,765	7,272



E8—OIL PIPELINES IN ONTARIO LENGTH IN MILES

	1965*	1967**
Total Trunk Lines, Crude Oil		
Interprovincial Pipe Line Co.	233	289
Total Products Lines:		
Sarnia Products Pipeline	245	245
Sun-Canadian Pipe Line Co.	212	212
Sun Pipe Line Co.	2	2
Trans-Northern Pipe Line Co.	388	388
	847	847
Total Oil Pipelines	1,080	1,136

* DBS Cat. No. 55-201

** Increases from Company Annual Reports.

COAL IN ONTARIO

Coal represented about 21 percent of the total primary energy consumption in Ontario. The total receipts of coal in Ontario in 1967 was nearly 60 percent of the total receipts in Canada, with Ontario accounting for over 90 percent of the net landed imports of coal into Canada.

Coal use is declining in most types of demand but is making spectacular gains as a fuel for electricity generation, accounting for nearly one-third of all coal consumed in Ontario. Coal consumption by Ontario Hydro alone reached an all-time high of 4.9 million tons in 1967, an increase of 29 percent

over 1966 consumption. This represents nearly 65 percent of the coal consumed by individual consumers in the combined areas of Central and Southern Ontario where most of these coal-fuelled stations are located.

Imported bituminous coal from the United States accounted for 90 percent of Ontario's total coal supply because of the ready availability of low-cost supplies to Ontario's major demand centres. Remaining supplies were met by receipts from Nova Scotia with lesser amounts from the Western Provinces, mostly to the Lakehead.



PHOTO COURTESY ONTARIO HYDRO

E9—ONTARIO COAL BALANCE SHEET 1966 AND 1967
IN THOUSANDS OF SHORT TONS, ROUNDED TO NEAREST 1,000

SUPPLY	Anthracite		Bituminous		Sub-Bituminous		Lignite		Total	
	1966	1967	1966	1967	1966	1967	1966	1967	1966	1967
Domestic — Western Provinces	—	—	45	64	4	4	226	243	275	311
— Nova Scotia	—	—	960	1,051	—	—	—	—	960	1,051
— Total	—	—	1,005	1,115	4	4	226	243	1,235	1,362
Imports — U.S.A.	297	301	14,578	14,333	—	—	—	—	14,875	14,634
Total Coal Supply	297	301	15,583	15,448	4	4	226	243	16,110	15,996
DEMAND										
Industrial — Consumption (1)	138	115	8,133	8,879	—	—	210	244	8,481	9,238
— Net to Inventory (2)	+8	-7	+935	+545	—	—	+6	-6	+949	+532
— Total Demand	146	108	9,068	9,424	—	—	216	238	9,430	9,770
Other (3) — Total Demand	151	193	6,515	6,024	4	4	10	5	6,680	6,226
Total Coal Demand	297	301	15,583	15,448	4	4	226	243	16,110	15,996

- Note: (1) Industrial includes electric utilities, mining and manufacturing.
(2) Does not include stocks held by firms using less than 1,000 tons per year nor stocks held by coke producers.
(3) Retail to residential, commercial and small industrial users, including railway, ship bunkers and government and institutional consumption.
(4) Negligible quantities of sub-bituminous are included in bituminous.

Source: DBS Cat.No.45-002

E10—ONTARIO COAL CONSUMPTION BY INDUSTRIAL CONSUMERS 1966 AND 1967

IN THOUSANDS OF SHORT TONS, ROUNDED TO NEAREST 500

Area	Economic Regions	Anthracite		Bituminous		Sub-Bituminous		Lignite		Total	
		1966	1967	1966	1967	1966	1967	1966	1967	1966	1967
Eastern Ontario	Eastern Ontario	—	—	135.0	130.0	—	—	—	—	135.0	130
Lake Ontario	Lake Ontario	1.0	2.0	285.0	235.5	—	—	—	—	286.0	237
Central Ontario	Metropolitan, Niagara, Upper Grand R. and Georgian Bay	103.0	81.0	4,750.0	5,576.0	—	—	—	—	4,853.0	5,657
Southern Ontario	Lake Erie, Lake St. Clair	34.0	32.0	2,023.5	1,891.5	—	—	—	—	2,057.0	1,923
Northern Ontario	Northeastern Ontario	—	—	705.5	752.5	—	—	—	—	705.5	752
Lakehead	Northwestern Ontario	—	—	234.0	293.0	—	—	210.0	244.0	444.0	537
Total Ontario		138.0	115.0	8,133.0	8,878.5	—	—	210.0	244.0	8,481.0	9,237

Source: DBS Cat.No.45-002

ELECTRICITY IN ONTARIO

The total consumption of electricity in 1967 was 56,700 million kilowatt-hours, an increase of 5.6 percent over 1966. In terms of end-use consumption hydro-electricity provided for 66.3 percent of total consumption and thermal-electricity 25.4 percent. The remainder was provided by purchased electricity from outside Ontario.

Hydro, or water power, continues to be the dominant source of electrical generation but the trend is diminishing. In the future, it is predicted, will favour

thermal generation, both conventional and nuclear. In 1967, electrical generation from coal-burning generating stations increased over 27 percent relative to 1966. Total nuclear generation from the Nuclear Demonstration Plant at Rolphton and the Douglas Point Generating Station at Kincardine was a small but significant output of 143 million kilowatt-hours. By the mid-1970's, nuclear generation is expected to increase a hundredfold, representing about 25 percent of the total generation in Ontario.

E11—ONTARIO ELECTRIC ENERGY — 1967 IN BILLIONS (10⁹) KWH

NET GENERATION		Canada*	Ontario*	OHEPC†
Utilities	— Hydro	104.4	36.0	34.2
	— Thermal	28.4	13.1	13.0
	— Total	132.8	49.1	47.2
Industry	— Hydro	27.7	1.6	—
	— Thermal	4.3	1.3	—
	— Total	32.0	2.9	—
Total All	— Hydro	132.1	37.6	34.2
	— Thermal	32.7	14.4	13.0
	— Total	164.8	52.0	47.2
Energy Purchased — Net		0.1**	4.7	7.4
Total Consumption		164.9	56.7	54.6
Increase over 1966 in %		5.6	5.6	5.6

* Source: DBS Cat. No. 57-001, Vol. 35, No. 12.

** Canada Total refers to net imports from U.S. and does not include transfers between provinces.

† Hydroscope — 1967 Annual Report Supplement.

The Section is divided into an Inspection Unit and an Engineering Unit. The personnel of the Inspection Unit are located both at head office and throughout the 30 areas maintained in the Province. The personnel of the Engineering Unit are based at head office but operate throughout the province in support of the Inspection Unit.

INSPECTION UNIT

The Inspection Unit is responsible for the enforcement of the Energy Act 1964, the Gasoline Handling Act, and the Regulations. Their activities include the inspection of natural gas, propane, fuel oil, and gasoline handling installations, including transmission and distribution pipelines; the inspecting and testing of gas, propane and fuel oil appliances which have not received laboratory approval; and the field instruction and guidance to registered contractors, municipal officials and the public with reference to Departmental policy and code and regulation requirements. During 1967, the Inspection Unit conducted nearly 19,000 inspections of such installations and equipment as natural gas and fuel oil pipelines, natural gas, propane and fuel oil appliances.

ENGINEERING UNIT

The Engineering Unit is responsible for establishing acceptable operational standards and specifications relating to such fields as transmission, distribution storage and transportation of fuels, safe use of heating fuels, maintenance of appliance and equipment, dispensing of automotive fuels, and installation and operation of storage, distribution and dispensing facilities. Both units work very closely with industry in the development and evolution of safety standards. Closely allied with this liaison is the certifica-

tion function within the Section under which gas fitters, propane fitters, pipeline inspectors and oil burner mechanics are instructed, examined and certified.

As part of the safety program, the following are licensed and registered: natural gas transmitters, natural gas, propane and pipeline-fuel oil distributors, heating appliance contractors and operators of bulk storage plants, service stations, wholesale outlets, and vehicles transporting petroleum products.

The Gasoline Handling Act and its regulations were completely rewritten in co-operation with various industry associations and other government departments. The proposed new Gasoline Handling Act and Regulations thereto were published.

With the assignment of responsibility for the Gasoline Handling Act to this Department on 1 January 1965, it was also necessary to enlarge the scope of the departmental publication "Titles of Specifications for Appliances and Accessories Authorized for use in Ontario". This publication now also includes identification of authorized specifications for equipment and accessories falling within the scope of the Gasoline Handling Act.

In the past the Canadian Standards Association Installation Codes for Gas, Propane and Fuel Oil applications have been used. However, because of the National scope of these CSA documents, there are many instances where they do not provide specific details required for particular applications in Ontario. Hence early in 1965, it was decided that there was a definite need for Utilization and Installation Codes for Ontario and accordingly, The Ontario Gas Code and The Ontario Propane Code have been prepared and the Ontario Fuel Oil Code is being prepared.

FIGURE 6—CERTIFICATION

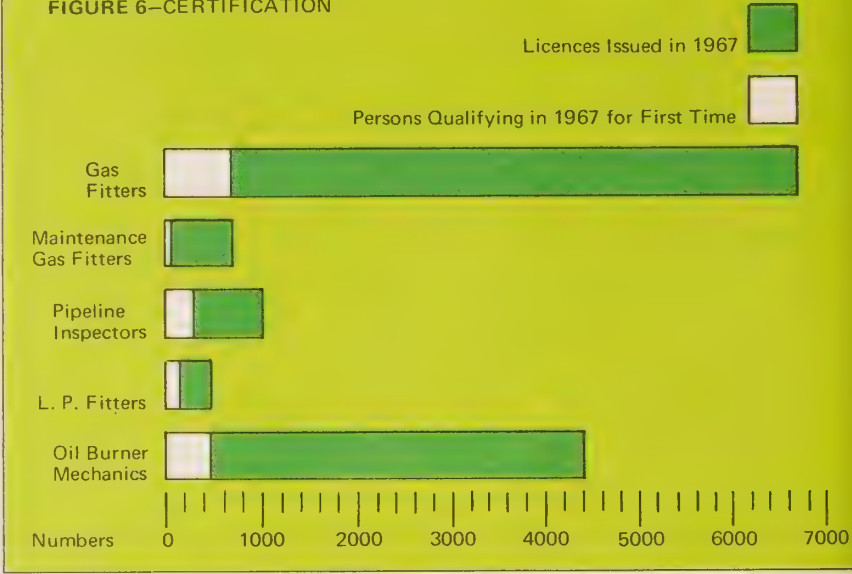
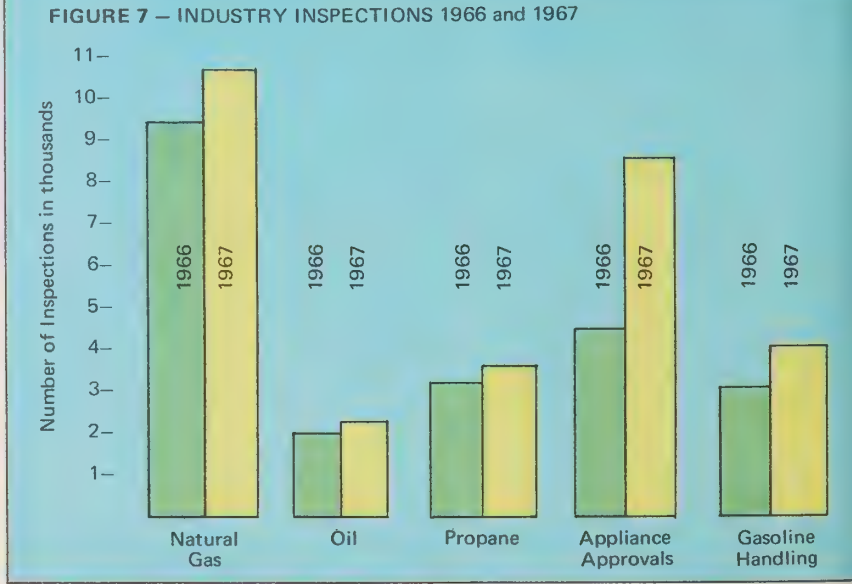


FIGURE 7 — INDUSTRY INSPECTIONS 1966 and 1967



TRAINING AND CERTIFICATION

1967 was a busy year for those engaged in training, and many training sessions were conducted throughout the Province for gas and propane fitters, oil burner mechanics, and personnel of the Ontario Water Resources Commission, The Department of Lands and Forests, The Department of Highways, and The Department of National Defence.

Certification of oil burner mechanics and gas fitters proceeded as planned with completion to a satisfactory level by the end of the year. Training sessions were held in several areas of the province for personnel engaged in the servicing and installation of

propane systems in travel trailers and mobile homes. Ninety-five percent of those attending these sessions were qualified.

The number of persons qualifying for certification during 1967 for the first time exceeded 1,350.

LICENCING

The mechanization of the licencing procedure, introduced in 1965, was reinforced in 1966 with the introduction of a system for staggering the effective renewal dates for licences and certificates. This system was implemented in 1967. These measures have helped to level out the work load throughout the year and to permit increased efficiency in the licencing operation while reducing the time and cost involved.

Nearly 37,000 licences were issued in 1967 for operations involving oil, gas and associated fuels. In excess of 13,700 certificates were issued to persons qualifying in the various trades skills in the fuel industry.

E12—LICENCING ACTIVITIES

Licenced Operations		No. of Licences Issued 1967	Certified Persons (Skills)		No. of Certificates Issued 1967
Gas	— Licence to Transmit	10	Gas	— Fitters Certificates	6,758
	— Licence to Distribute	41		— Maintenance Fitters Certificates	691
Propane	— Licence to Transfer	171	Propane	— Pipeline Inspectors Certificates	1,010*
	— Licence to Distribute	587		— Service Fitters Certificates	16
	— Licence to Transport	230		— Gas Fitters Certificates	
				Class I	371
Fuel Oil	— Licence to Distribute by Pipeline	28		Class II	105
Gasoline	— Licence to Transport	4,233*		Class III	17
	— Licence to Operate a Bulk Storage Plant	1,163	Natural and Propane Gas		
	— Licence to Operate a Service Station or Marina	13,273*	— Dual Fitters Certificates		289
Oil & Gas	— Licence to Conduct Geophysical or Geochemical exploration	19	Oil Burner Mechanics Certificates		
	— Licence to Lease	144		Class 2	4,418*
	— Licence to Produce	166		Class 3	93*
	— Licence for Boring or Drilling Machine	75			
	— Registration of Contractors	2,958*	*The expiry date for some of these licences and certificates have been extended through 1968 to establish renewals on a staggered basis. Hence these totals are not comparable with figures for 1966.		
Total Licences Issued		23,098	Total Certificates Issued		13,768



LABELLING

Manufacturers of gas or oil appliances may make application to the Energy Branch for a special appliance approval label. A Departmental inspector will affix the label once he is satisfied that the appliance is acceptable. Over 2,300 labels were affixed to various appliances during 1967. The Licencing Section handles the administrative details of the special approvals labels as well.

ORGANIZATION

The Petroleum Resources Section operates under authority of The Energy Act and Regulation. Activities of the Section include the regulation of exploration and drilling operations, licencing and inspection of drilling and production facilities and maintaining and providing engineering and geological data and information for use by Government and Industry. The administration and engineering offices of the Petroleum Resources Section are located in Toronto, while the geological and sample repository facilities are in Ottawa. The inspection staff operate from regional offices throughout southwestern Ontario.

During 1967, the research and development program on the Ontario Well Data System was concluded at the University of Western Ontario. This project was initiated in 1964 by the Department and the University of Western Ontario and provides Industry with various types of computer-produced geological maps using the engineering and geological data from 10,000 Ontario oil and gas wells.

The project is now being handled through the Department's geological office in Ottawa and computer facilities at the Ontario Department of Highways Toronto Data Center are being utilized for general usage and further development of the system.

In addition to the work being done in computer-applications, continued emphasis is being placed on providing Industry with current geological and reservoir engineering reports. A revised gas well testing program has been initiated by the Department and with the co-operation of Industry, it is anticipated the quality of test data and reservoir information will be considerably upgraded.

During 1967, the Department continued to meet with Industry through the Ontario Petroleum Council. These joint Government-Industry meetings resulted in several significant developments including a revised set of Exploration, Drilling and Production Regulations which will come into effect in 1968.

INTRODUCTION

Exploration activity in the Province of Ontario showed an general upswing during 1967. This was most noticeable in offshore Lake Erie and in a new area of exploratory interest-the Hudson Bay and James Bay Lowlands.

Developments in Lake Erie out-distanced those on land. By the year's end, virtually all the Canadian portion of the lake,(some 3,108,000 acres) was held under exploratory licence or lease by 15 different operators. Wildcat drilling on this acreage discovered 6 new gas pools in the Clinton-Cataract sands and the Salina-Guelph carbonates.

In the Hudson Bay and James Bay region, the federal government mapped two large prospective sedimentary basins where Silurian reefs similar to those found in southwestern Ontario were noted. Leasing of federal offshore and provincial onshore acreage continued with 1,000,000 acres being leased in Ontario. A geophysical exploration program for this acreage is proposed for 1968.

E13—ACREAGE ACQUIRED ON LAND IN 1967 FOR GAS AND OIL RIGHTS

County	Average
Brant	472
Bruce	8,293
Carleton	2,540
Elgin	660
Essex	3,644
Glengarry	749
Haldimand	500
Huron	30,654
Kent	9,292
Lambton	48,883
Lincoln	50
Manitoulin	2,980
Middlesex	2,250
Norfolk	17,080
Oxford	10,884
Prescott	2,446
Russell	2,098
Wellington	1,730
Grand Total	145,205

GEOPHYSICAL ACTIVITY

Geophysical activity in southwestern Ontario resulted in a total of 16½ crew months; 4 gravity; 1 resistivity and 10½ seismic.

The great percentage of this geophysical activity was concentrated in Lambton County where recent drilling results have offered considerable encouragement for drilling geophysical anomalies.

Although tentative plans were made to conduct geophysical surveys in Lake Erie, the short season and the uncertainty of the availability of acreage on the United States side of Lake Erie resulted in the postponement of these programs.

LEASING

A total of 142 licences to lease gas and oil rights were issued during the year and the total acreage acquired on land was 145,205; approximately the same amount as was leased in 1966.

It is apparent that much of the leasing activity was directed towards the continued search for pinnacle reefs, although considerable acreage is still being acquired in the Norfolk-Oxford areas.

Transactions involving Crown acreage in Southern Ontario were once again restricted to Lake Erie as the drilling ban on the other Great Lakes continued in effect. However, leasing activity in the lake reached an absolute high as all available acreage was held under licence or lease by the end of the year. The announcements by the

States of New York, Pennsylvania and Ohio of their intention to open up the United States side of Lake Erie for exploration and the announcement by The Consumers' Gas Company and Pan American Petroleum Corporation of a joint venture on some one million acres contributed greatly to this upsurge in interest.

A total of 525 new exploration licences (2,530,785 acres) were granted while 15 licences (63,195 acres) were cancelled surrendered or expired. There were no new production leases issued and one (766 acres) was surrendered. At the end of 1967, there were 3,031,665 acres held in 641 licences and 76,743 acres held in 45 leases. The following gives a comparison of acreage held with other years.

Year	Acreage Held
1958	2,461,573
1964	894,372
1965	689,153
1966	641,584
1967	3,108,408

In the Hudson Bay Lowlands, a licence to explore for oil and gas was issued to Aquitaine Company of Canada Limited for an area covering one million acres. This represents the first large block of acreage to be acquired in Northern Ontario and could well act as a catalyst in initiating a large scale exploration program in the area.

DRILLING

A summary of well completions is shown geographically and by class and results. The total number of completions, 156, was an increase over 1966 but the total footage



E14—DRILLING SUMMARY BY DEPTH — 1967

	Devonian		Silurian		Ordovician		Cambrian		Totals	
	E	D	E	D	E	D	E	D	E	D
Class	E	D	E	D	E	D	E	D	E	D
Gas	—	—	14	45	—	—	—	—	14	45
Oil	—	4	—	2	—	—	—	—	—	6
Dry	2	1	42	15	4	—	6	—	54	16
Sub-Totals	2	5	56	62	4	—	6	—	68	67
Other	4		9		4		4		21	
Totals	11		127		8		10		156	

drilled, 236,606 feet, represented a decrease of 3 percent from the previous year.

The 68 exploratory tests drilled in 1967 was a significant 20 percent increase over 1966; 6 were Cambrian, 4 were Ordovician, 56 were Silurian and 2 were Devonian. The Silurian accounted for 62 of the 67 development wells or 93 percent while the remaining five were shallow Devonian wells.

The increase in exploratory drilling reflects a general upswing in activity in the province which should continue throughout 1968.

The success ratio for exploratory drilling increased to 21 percent as 14 of the 68 wells were successful. Of these 14, seven were on land and seven were drilled in Lake Erie.

Of the seven successful land wells, five were extensions of the productive Clinton-Cataract formations in Elgin and Norfolk Counties. The other two were Salina-Guelph discoveries, one in Sombra Township, Lambton County and the other in West Wawanosh Township, Huron County.

The West Wawanosh discovery was significant in that the pinnacle reef tested had been discovered in 1958 and this original well, recording only 50 mcfD, was abandoned on the assumption that the reef was salt-plugged. Based on the subsequent drilling, a development program is being undertaken to outline the extent of the productive area.

E15—SUMMARY OF WELL COMPLETIONS — 1967

County	Township	EXPLORATORY					DEVELOPMENT					OTHER		
		G	O	D	T	Footage	G	O	D	T	Footage	No.	Type	Footage
BRUCE	Bruce			1	1	2,790								
ELGIN	Aldborough			1	1	595								
	Bayham	1			1	1,420								
	Dunwich			1	1	3,662								
	Yarmouth			1	1	465								
	Lake Erie	2		8	10	18,642								
ESSEX	Anderdon											1	B.	1,225
	Malden			1	1	3,001								
	Lake Erie	1			1	1,018	3		2	5	5,144			
GLENGARRY	Lochiel											1	S.T.	2,029
HALDIMAND	Canborough						1			1	548			
	Cayuga N.						4		1	5	3,934			
	Rainham						1			1	871			
	Walpole								1	1	930			
HALTON	Nelson											1	S.T.	1,725
HASTINGS	Tyendinaga											1	S.T.	1,102
HURON	Wawanosh W.	1		1	2	5,295	1			1	1,895			
KENT	Chatham							1	1	2	829	1	W.S.	935
	Orford			1	1	4,169						2	S.T.	810
	Raleigh								2	3	4,120			
	Lake Erie						1							
LAMBTON	Dawn			1	1	2,095	1	1	1	3	6,134			
	Enniskillen			6	6	13,396		3		3	1,311			
	Moore			4	4	9,999	2	1		3	7,512	6	4S. 2B.	14,165
	Plympton			1	1	2,370								
	Sarnia											1	Ob.	270
	Sombra	1		4	5	11,124			2	2	4,377			
	Warwick			3	3	6,623								
LINCOLN	Gainsborough						1			1	1,670			

E15-SUMMARY OF WELL COMPLETIONS - 1967

County	Township	EXPLORATORY					DEVELOPMENT					OTHER		
		G	O	D	T	Footage	G	O	D	T	Footage	No.	Type	Footage
MANITOULIN	Assiginack			1	1	828								
MIDDLESEX	Biddulph			2	2	3,242								
	Caradoc			1	1	1,805								
	McGillivray			2	2	3,680								
	Metcalfe			2	2	3,840								
	Williams W.			1	1	2,115								
NORFOLK	Charlotteville	1			1	1,319	13		2	15	18,738			
	Middleton			1	1	1,232								
	Walsingham S.						1			1	1,361			
	Townsend	3			3	2,613	11		1	12	10,522			
	Lake Erie	2		2	4	6,245	3			3	3,709			
NORTHUMBERLAND	Murray											1	S.T.	436
OXFORD	Dereham			1	1	*3,365	1		3	4	3,802	1	S.T.	500
	Zorra W.													
PRINCE EDWARD	Ameliasburg											1	S.T.	615
	Athol											1	S.T.	915
RUSSELL	Russell											2	S.T.	5,437
SIMCOE	Nottawasaga			1	1	710								
	Tiny			1	1	552								
WELLAND	Humberstone													
	Wainfleet						1			1	729	1	S.	765
	Lake Erie	2		4	6	6,973								
WELLINGTON	Arthur			1	1	2,358								
Totals		14		54	68	127,541	45	6	16	67	78,136	21		30,929

Grand Total - 156 Wells, 236,606 Feet

*P.B. as Silurian development gas well

Code - S.T. - Stratigraphic Test Well

W.S. - Water Source Well

Ob. - Observation Well

B. - Brine Well

S. - Gas Storage Well

Of the seven successful Lake Erie wells, six were Clinton-Cataract discoveries and the other was a Salina-Guelph discovery off Essex County. The discoveries by Place Gas and Oil Company Limited in Long Point Bay and Atlas Exploration Limited off Essex County underwent development drilling during the year and results proved most encouraging. Interest in the oil and gas potential of Lake Erie is at its highest level and may result in additional offshore drilling equipment being constructed or imported.

The 1967 development drilling followed a normal pattern, being concentrated in Haldimand, Lambton and Norfolk Counties. Norfolk was the most active single area with 28 wells being drilled, an increase of almost 60 percent over the corresponding period in 1966.

A drilling summary by depth and the drilling success ratios are shown.

PRODUCTION

Details of oil and gas production by field are shown in accompanying Tables. Oil production decreased 6.7 percent over 1966 to 1,240,298 barrels, while gas production showed an 8 percent decrease to 14,218,140 mcf. The average well head price per barrel of oil was \$2.8413 while the average wellhead price of gas was \$0.3817 per mcf. The value to producers of total 1967 output was approximately \$3,524,123 for crude oil and \$5,426,780 for natural gas. A graphic history of Ontario oil and gas production also is shown.

E16—ONTARIO OIL FIELDS, WELLS AND PRODUCTION 1967

Quantities in Barrels

County	Field or Pool	Township	Producing Horizon	WELLS		
				New	Active	Production
Brant, Oxford	Gobles	Burford, Blenheim	Cambrian		49	89,890
	Innerkip	Blandford	Cambrian		2	384
Elgin, Middlesex	Crinan	Aldborough	Salina		1	80
	Rodney	Aldborough	Dundee		168	478,230
	Wallacetown	Dunwich	Dundee		16	1,100
	Willey	Dunwich, Ekfrid	Cambrian		8	136,877
Essex	Colchester	Colchester South	Trenton		5	13,422
	Malden	Malden	Trenton		6	8,012
Kent	Bothwell, Thamesville	Camden, Zone	Dundee		37	10,284
	Chatham	Chatham	Guelph		2	3,609
	Clearville	Orford	Cambrian		14	58,445
	Dover	Dover	Trenton		1	237
	Dresden	Camden, Chatham	Guelph		1	764
	Stewart	Chatham	Guelph	1	3	113
Lambton	Becher	Sombra	Salina		27	97,780
	Brigden	Moore	Salina		2	4,594
	Clay Creek	Sombra	Guelph		1	2,479
	Colinville	Moore	Guelph		1	1,818
	Corunna	Moore	Salina-Guelph	1	8	57,894
	Dawn-Sombra	Dawn, Sombra	Guelph	1	17	34,799
	Kimball	Moore	Guelph		1	1,775
	Oakdale	Dawn	Dundee		1	277
	Oil Springs	Enniskillen	Dundee	1	447	53,797
	Petrolia	Enniskillen	Dundee		97	22,427
	Seckerton	Moore	Guelph		11	64,388
	Shetland (Dev)	Euphemia	Dundee		1	258
	Shetland (Sil)	Euphemia	Delaware		1	28
	Sombra	Sombra	Guelph		1	131
	Sutorville	Brooke	Guelph		3	4,478
	Talford	Moore	Guelph		1	877
	Wanstead	Brooke, Enniskillen	Guelph		3	20,338
	Warwick	Warwick	Guelph		1	18,316
	Wilkesport	Sombra	Guelph		3	1,461
	Wilsoncroft	Enniskillen	Dundee	2	2	—



E16—ONTARIO OIL FIELDS, WELLS AND PRODUCTION 1967

x	County	Field or Pool	Township	Producing Horizon	Quantities in Barrels		
					WELLS		Production
					New	Active	
Middlesex, Huron		Glencoe	Mosa	Dundee		123	34,404
		Grand Bend	McGillivray, Stephen	Guelph		2	13,392
		Mosa	Mosa	Salina		1	3,140
TOTALS:					6	1,068	1,240,298

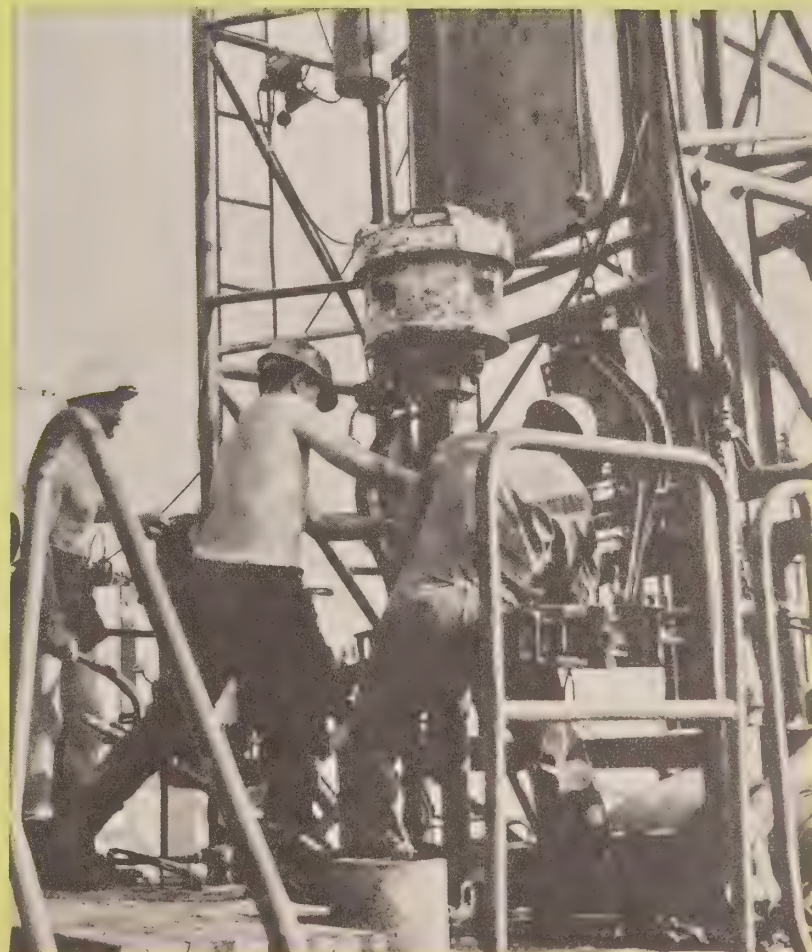
E17—SUCCESS RATIOS — 1967

	Gas	Oil	Dry	Totals	Success %
Exploratory					
Devonian	—	—	2	2	0.0
Salina-Guelph	3	—	27	30	10.0
Silurian Clinton-Cataract	11	—	15	26	42.3
Ordovician	—	—	4	4	0.0
Cambrian	—	—	6	6	0.0
Totals	14	—	54	68	20.6
Development					
Devonian	—	4	1	5	80.0
Salina-Guelph	9	2	10	21	52.4
Silurian Clinton-Cataract	36	—	5	41	87.8
Ordovician	—	—	—	—	—
Cambrian	—	—	—	—	—
Totals	45	6	16	67	76.1

E18—LAKE ERIE GAS WELLS AND PRODUCTION 1967

County	Field or Pool	WELLS		Average W.H.P. p.s.i.g.	Production Mcf*
		Shut-in	Active		
ELGIN	—	2	—	—	—
ESSEX	—	4	—	—	—
KENT	D'Clute	6	10	422	537,897
	Morpeth	—	—	—	19,369
	Tilbury E.	10	78	282	1,825,277
	—	1	—	420	—
HALDIMAND	Haldimand	42	88	272	1,119,741
NORFOLK	Norfolk	18	23	318	345,940
WELLAND	Welland	3	1	—	288,577
TOTALS:		86	200	—	4,136,801

*at 14.73 p.s.i.a.



E18—ONTARIO NATURAL GAS PRODUCTION BY FIELDS — 1967

County	Field or Pool	Township	Formation	WELLS		Average Shut-in W.H.P. p.s.i.g.	Production in Mcf*
				Shut-in	Active		
ELGIN	—	Lake Erie	Clinton-Cataract	2	—	—	—
	Vienna, Richmond	Bayham		5	23	88	2,200
	Cowal	Dunwich	Salina-Guelph	—	3	338	21,125
	Mosald	Aldborough, Dunwich	Salina-Guelph	—	10	438	139,718
	Willey	Dunwich, Ekfrid	Cambrian	—	—	—	108,066**
ESSEX	—	Lake Erie		4	—	—	—
	Kingsville-Leamington	Gosfield South	Salina-Guelph	2	7	187	12,684
	Malden	Malden		5	—	—	—
HALDIMAND	Haldimand	Lake Erie	Clinton-Cataract	42	88	272	1,119,741
		All Townships		28	664	132	355,138
BRANT		Tuscarora		—	15	114	
LINCOLN		Caistor		4	23	56	
		Gainsborough		—	1	—	11,635
WENTWORTH		Binbrook		—	2	50	1,565
HALTON	Acton	Esquesing	Black River	1	14	184	16,681
	Hornby	Trafalgar		3	3	190	3,167
HURON	Bayfield	Stanley	Salina-Guelph	—	2	125	161,585
KENT	Botany	Howard	Salina-Guelph	5	—	—	—
	Camden Gore	Camden		—	14	431	111,630
	Chatham	Chatham		—	25	333	144,899
	Chatham Gore	Chatham		—	2	305	14,719
	D'Clute	Lake Erie		6	10	422	537,897
		Raleigh		1	15	181	36,775
	Dover	Dover	Trenton	9	1	131	12,347
	Dresden	Chatham, Camden		3	1	580	20,060
	Guilds	Harwich		3	2	215	7,666
	Lake St. Clair	Lake St. Clair		4	—	—	—
	Morpeth	Lake Erie		—	—	—	19,369
		Howard	Salina-Guelph	3	9	205	68,053
	Tilbury	Lake Erie		10	78	282	1,825,277
		Romney, Tilbury E.		3	83	133	237,256
	Wolfe	Harwich		—	1	295	11,524
	Zone	Zone		7	41	310	87,947
	—	Lake Erie	Guelph	1	—	420	—
LAMBTON	Avonry	Sombra	Salina-Guelph	—	1	—	3,552
	Becher East			1	1	187	28,484
	Becher West			6	35***	157	255,564
	Brigden	Moore		—	2	504	165,901
	Bickford	Sombra		10	3	240	302,262
	Charlemont			—	2	478	95,729
	Courtright	Moore	Guelph	4	—	1,010	—
	Corunna			—	—	—	100,835**
	Dawn Misc.	Dawn	Salina-Guelph	6	16	395	85,450
	Dawn 156			7	9	—	1,319,470***
	Dawn 167			5	—	—	—
		Dawn, Enniskillen					

E18—ONTARIO NATURAL GAS PRODUCTION BY FIELDS — 1967 (Continued)

County	Field or Pool	Township	Formation	WELLS		Average Shut-in W.H.P. p.s.i.g.	Production in Mcf*
				Shut-in	Active		
	Enniskillen 26	Enniskillen Plympton Moore Sombra Sombra	Salina-Guelph	2	—	843	—
	Enniskillen 28			—	2	257	253,267
	Mandaumin			—	1	145	41,349
	Seckerton			—	—	—	119,724**
	Sombra			1	2	215	58,683
	Wilkesport			—	3	492	3,964,476
MIDDLESEX	Wardsville	Mosa	Salina-Guelph	1	20	207	88,812
Norfolk	Norfolk	Lake Erie All Townships Townsend	Clinton-Cataract	23	18	318	345,940
				28	550	225	1,241,183
	Wilsonville			3	8	341	44,534
OXFORD	Brownsville	Dereham	Guelph	2	1	—	—
	Gobles	Blenheim	Cambrian	—	12	215	43,507
	Innerkip	Blandford	Cambrian	—	1	250	72,193
	Norwich South	South Norwich	Clinton-Cataract	—	6	223	12,312
	Verschoyle W.	Dereham	Guelph	4	—	395	—
WELLAND	Welland	Lake Erie	Clinton-Cataract	3	1	—	288,577
		All Townships		74	212	85	197,612
GRAND TOTALS:				331	2,043		14,218,140

* at 14.73 p.s.i.a.

** Solution gas from oil wells. Pools except Willey used for gas storage.

*** Includes oil wells from which solution gas is collected.

**** Field used for storage. Quantity includes cushion adjustment of 1,100,000 and solution gas of 219,470.

OIL

The Rodney field, Elgin County, continues to be the province's largest oil-producing area, contributing more than 38 percent of the total. The Becher water flood project in Lambton County also continued its excellent results with an increase in production of 25 percent over the previous year to eight percent of the province's total. However, most other fields in the province showed a general decline although this decrease should, in part, be reversed by the secondary recovery program which was initiated in the Clearville field in late 1967 and will be undertaken in the Gobles field in 1968.

GAS

Lambton County continues as the province's most productive area contributing almost 48 percent of the 1967 gas production total. Lake Erie was next in importance although production decreased 7 percent over 1966.

The decline in gas production can be attributed to the completion of cushion gas production from the Dawn 156 storage pool and the continued normal depletion of most pools in Lambton County and the D'Clute field in Kent County.

Although the Clinton-Cataract potential in Norfolk County continued to attract attention, the results from the 1967 drilling program are not reflected in production and as a result, the area showed a 5 percent decline.

While gas reserves in Lake Erie increased appreciably, gathering and pipeline facilities were not installed. Output from Lake Erie wells showed a decrease from 1966, as noted previously, but provided over 25 percent of the province's total. The Wilkesport pool in Lambton County, produced more than three times its 1966 output and presently represents the largest single pool accounting for 28 percent of the total.

GAS STORAGE

To date ten underground natural gas storage areas have been authorized for use by the Ontario Energy Board. The total working capacity of these pools is approximately 100 billion cubic feet and all but the Crowland Pool, near Welland, are located in Lambton County. Three additional pools have been designated as gas storage areas by regulation but storage operations have not yet been authorized. A summary of these pools is shown.

Withdrawals from storage during the period April 1, 1967, to March 31 1968 totalled approximately 45.6 BCF compared with 39 BCF during the similar period in 1966-67. Volumes

of gas injected into storage decreased slightly to 47.2 BCF from 48.6 BCF during corresponding periods. Storage withdrawals represented approximately 15.1 percent of total year's gas sales in the province.

No new pools were authorized during 1967 but Tecumesh Gas Storage Limited's Kimball-Colinville Pool was utilized for the first time to meet the company's storage contract with The Consumers' Gas Company. Development of this pool continued with the drilling of four storage wells in 1967 and Tecumesh plans to drill six additional wells during 1968.

On the basis of short term future requirement, there appears to be a sufficient reserve of storage capacity in the Lambton County area. The search continues, however, for suitable storage reservoirs in closer proximity to large market areas such as Metropolitan Toronto and Ottawa.

E19-GAS STORAGE

Reservoir	Zone	Status	Operator	Working Reservoir Capacity (billion cu. ft.)	Original Reservoir Pressure (p.s.i.g.)
Dawn 47-49	G, A-1	Active	Union	3.38	865
Dawn 49-85	G, A-1, A-2	Active	Union	4.01	865
Dawn 156	G, A-1	Active	Union	20.50	880
Payne	G, A-1	Active	Union	12.53	877
Waubuno	G, A-1	Active	Union	6.15	931
Corunna	G, A-1	Active	Tec.	3.83	943
Crowland	Whirlpool	Active	Cons.	0.62	590
Seckerton	G, A-1	Active	Tec.	9.60	950
Dawn 3	A-1, A-2	Inactive	Union	0.88	760
Kimball-Colinville	G, A-1	Active	Tec.	35.00	919
Bickford	G, A-1	Desig.	Imp.	13.80	986
Sombra	G, A-1	Desig.	Imp.	1.81	995
Zone	A-1, A-2	Desig.	Union	8.46	721
TOTAL				120.57	

G	— Guelph Formation
A-1, A-2	— Salina Formation
Desig.	— Designated
Union	— Union Gas Company of Canada Limited
Imp.	— Imperial Oil Limited
Tec.	— Tecumseh Gas Storage Limited

FIGURE 8

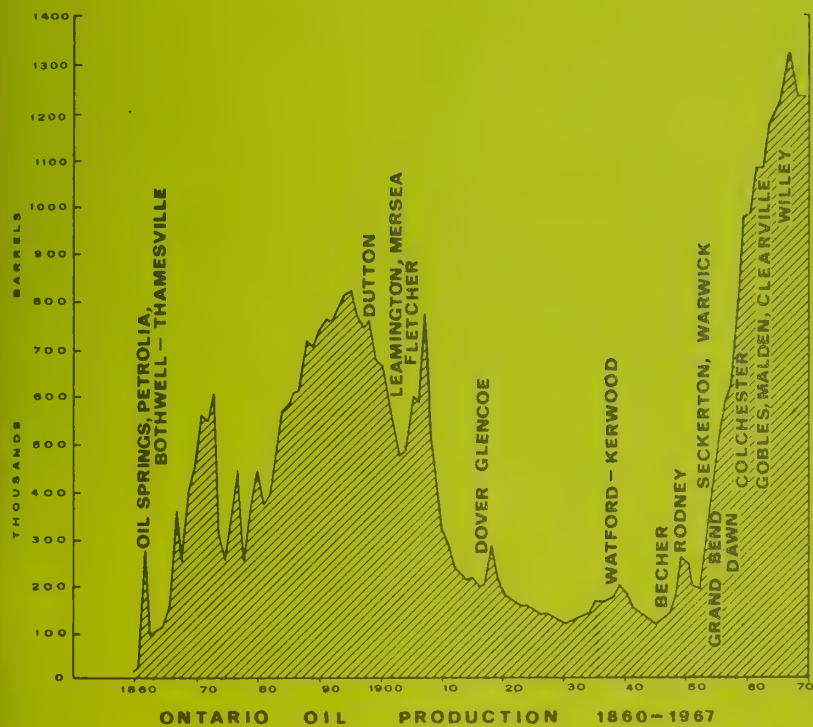
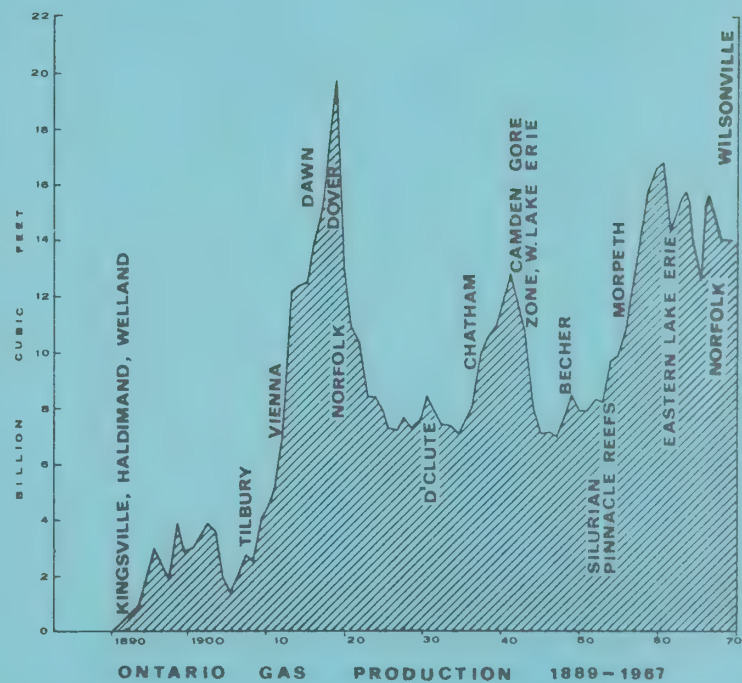
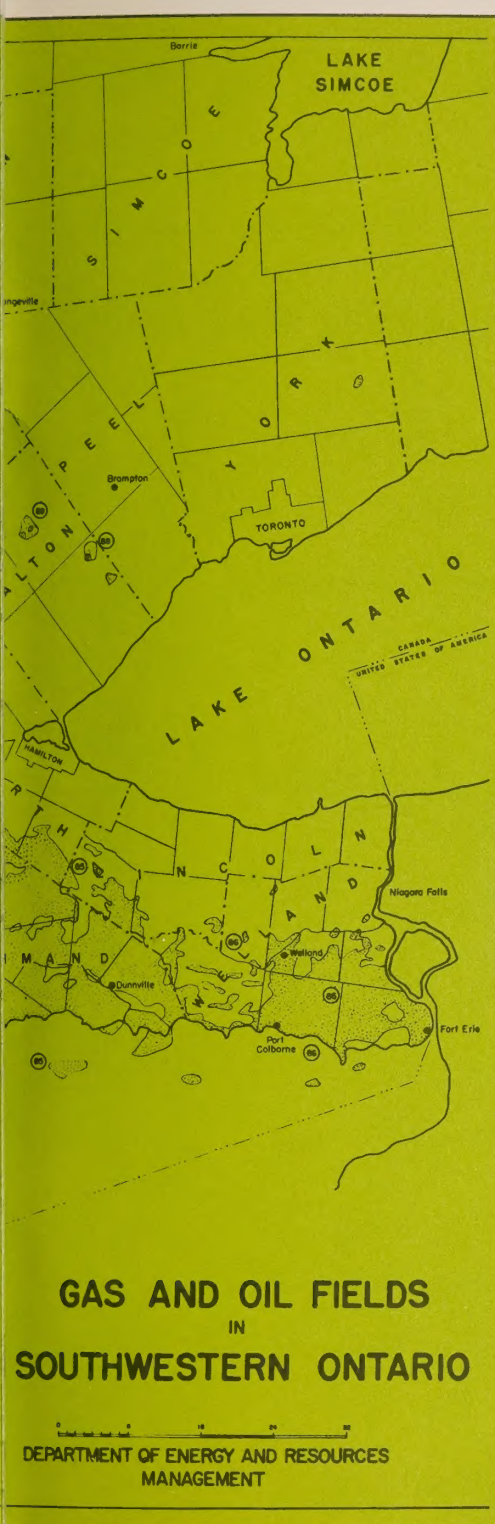


FIGURE 9





INDEX OF GAS & OIL FIELDS

- | | |
|---|--|
| ESSEX COUNTY | 54. Oil Springs (Gas-S, Oil-D) |
| 1. Malden (Gas-S & Oil-O) | 55. *Dawn 167 (Gas-S) |
| 2. Colchester (Oil-O) | 56. Shetland (Gas-S) |
| 3. Kingsville-Leamington-Mersea (Gas-S) | 57. Dante (Oil-D) |
| 4. Pelee Island (Oil-S) | 58. McCready (Oil-D) |
| 5. Staples (Gas & Oil-S) | 59. *Innwood (Oil-D) |
| 6. Comber (Oil & Gas-S) | 60. Brooke 5-12 (Oil-S) |
| 7. *Belle River (Oil-D) | 61. Sutorville (Oil-S) |
| KENT COUNTY | 62. *Watford-Kerrwood (Oil-D) |
| 8. Lake St. Clair (Gas-S) | 63. Warwick (Oil-S) |
| 9. Electric (Gas-C) | 91. Courtwright (Gas-S) |
| 10. Dover (Gas & Oil-O) | HURON COUNTY |
| 11. Fletcher (Oil-S) | 95. Dungannon (Gas-S) |
| 12. Tilbury (Gas & Oil-O) | 64. Bayfield (Gas-S) |
| 13. Glenwood (Oil-S) | 65. *Zurich (Gas-S) |
| 14. Romney (Oil-D) | 66. *Dashwood (Gas-S) |
| 15. Wheatley (Oil-S) | MIDDLESEX COUNTY |
| 16. New Wheatley (Gas-S) | 67. Grand Bend (Oil-S) |
| 17. *Stevenson (Oil-O) | 68. *Adelaide (Oil-D) |
| 18. D'Clute (Gas-S) | 69. *Crumlin (Gas-S) |
| 19. *Doyles (Gas-S) | 70. Glencoe (Oil-D) |
| 20. *Kipp (Oil-D) | ELGIN COUNTY |
| 21. *Richardson's Siding (Oil-D) | 71. Mosald (Gas & Oil-S) |
| 22. Wolfe (Gas-S) | 72. Rodney (Oil-D) |
| 23. Guilds (Gas-S) | 73. *New Glasgow (Gas-C) |
| 24. *Botany (Gas-S) | 74. Willey (Oil-C) |
| 26. Clearville (Oil-C) | 75. Cowal (Gas-S) |
| 27. Bothwell-Thamesville (Oil-D) | 76. *Dutton (Oil-D) |
| 28. Zone (Gas-S) | 77. Wallacetown (Oil-D) |
| 29. Chatham-Dresden-Camden Gore (Gas & Oil-S) | 78. *Malahide (Gas-S) |
| 30. *Chatham Gore (Gas-S) | 79. Bayham (Gas-S) |
| LAMBTON COUNTY | NORFOLK COUNTY |
| 31. East Becher (Gas-S) | 80. Norfolk (Gas-S) |
| 32. West Becher (Gas & Oil-S) | 93. Wilsonville-Wilsonville S. (Gas-S) |
| 33. Sombra (Gas-S) | OXFORD COUNTY |
| 34. Bickford (Gas & Oil-S) | 81. South Norwich (Gas-S) |
| 35. Avonry-Wilkesport (Gas-S) | 82. Brownsville (Gas-S) |
| 36. *Duthill (Gas-S) | 83. Innerkip (Gas & Oil-C) |
| 37. Dawn (Gas & Oil-S) | 84. Gobles (Gas & Oil-C) |
| 38. *Florence (Oil-D) (Oakdale) | 92. *Verschoyle W. (Gas-S) |
| 39. Dawn 156 (Gas & Oil-S) | BRANT COUNTY |
| 40. Waubuno (Gas-S) | 85. Haldimand (Gas & Oil-S) |
| 41. Brigden (Gas & Oil-S) | HALDIMAND COUNTY |
| 42. Kimball-Colinville (Gas & Oil-S) | 85. Haldimand (Gas-S) |
| 43. Payne (Gas-S) | WELLAND COUNTY |
| 44. Seckerton (Gas & Oil-S) | 86. Welland (Gas-S) |
| 45. Corunna (Gas & Oil-S) | WENTWORTH COUNTY |
| 46. Telford (Oil-S) | 87. *Rockton (Gas-C) |
| 47. Plympton-Sarnia (Oil & Gas-D) | HALTON COUNTY |
| 48. Mandaumin (Gas-S) | 88. Hornby (Gas-O) |
| 49. Petrolia (Oil-D) | 89. Acton (Gas & Oil-O) |
| 50. Wanstead (Oil-S) | BRUCE COUNTY |
| 51. *Wilson Croft (Oil-D) | 90. *Hepworth (Gas-O) |
| 52. Enniskillen No. 28 (Gas-S) | GREY COUNTY |
| 53. *Enniskillen No. 26 (Gas-S) | 94. Egremont (Gas-O) |

PRODUCING FORMATION

D—Devonian
O—Ordovician
*Inactive

S—Silurian
C—Cambrian

REPORT OF THE PERSONNEL BRANCH

OBJECTIVES

To act as a support program for the Department in the areas of recruitment and staffing, position administration, training, employee relations, and personnel records.

To promote effective personnel management within the Department by providing staff with advice and assistance in such areas as manpower and organizational planning.

ORGANIZATION

The Branch continues to exist as it was established in 1964, consisting of a Personnel Director and a full time secretary.

ACTIVITIES

RECRUITMENT AND STAFFING

Both in-service and outside job advertising; recruiting seasonal and permanent staff, including Junior Conservationist Award Program participants; university recruiting; processing transfers and promotions; maintaining establishment and complement control.

The recruitment program for seasonal and permanent professional staff covered eight universities. Seven major competitions were held and 31 new staff were recruited into the professional, technical and clerical areas. There were 19 resignations, one dismissal, one super-annuation due to disability and one death. Four people transferred into the Department and one transferred out. The net increase in staff was 12.

POSITION ADMINISTRATION

Identifying positions; preparing position specifications and organization charts; recommending appropriate classification; assessing the need for new or revised class series; salary

surveys; placing qualified personnel in positions.

Fourteen positions were established and sixteen positions were prepared and submitted for classification. A new class series for Fuel Technicians; 1-6 was established and 40 employees were allocated to the appropriate level in the new series. Twenty people were appointed to the permanent staff.

TRAINING

Departmental training courses; processing requests for financial assistance for educational purposes; recommending attendance at Department of Civil Service training courses and courses provided by outside agencies.

A total of thirteen people attended the Supervisory, Orientation, Position Administration, Management Development and Senior Officers courses given by the Department of Civil Service. Nine people received approval for financial assistance, five receiving 100 percent reimbursement and four receiving 50 percent. The Personnel Office participated in the Resources Managers' Conferences in April and November. An Orientation course for new employees was held in December, and a Management Development Seminar for the engineers of the Conservation Authorities Branch was held in February.

EMPLOYEE RELATIONS

Investigating problems involving personnel; counselling employees; advising and assisting supervisors and management; acting as liaison with Department of Civil Service, Staff Relations Branch, Treasury Board and Civil Service Association of Ontario. Liaison with United Appeal, Blood Donor Campaign and Cancer Society.

PERSONNEL RECORDS

Processing nominations, appointments, separations, leaves of absence, merit increases, salary revisions, group insurance applications, and related personnel transactions; maintaining attendance and vacation records; setting up and maintaining employee personal files.

OTHER ACTIVITIES

Eighteen boys between the ages of 16 and 19 participated in the Junior Conservationist Award Program. Preliminary instruction was given at the Albion Hills Conservation School, while the remainder of the time was spent actively involved in Conservation projects and studies in several Authorities.

The Administrative Trainee Program sponsored by the Department of Civil Service continued, with several university graduates each spending a two month period with the Department. The Branch was represented at the International Public Personnel Association's Annual Conference in Vancouver in October.

P1

Number of Employees by Branch

	Complement March 31/67	On Staff March 31/67	Complement March 31/68	On Staff March 31/68
Main Office	8	7	8	8
Personnel	2	2	2	2
Information Services	—	—	3	3
Administrative Services Br.	38	35	43	38
Energy Branch	59	57	63	60
Energy Board	9	9	10	9
Conservation Authorities Br.	56	51	55	53
TOTAL	172	161	184	173

P2

Number of Professional Employees 1967-68

M	Foresters	Agrologists	Engineers	Misc.	Total
March 31, 1967	16	9	18	8	51
March 31, 1968	15	10	17	11	53

P3

Total Number of Employees on Staff for the end of Each Month for Fiscal Year 1967-68

	Head Office			Field			Grand Total
	Regular	Unclassified	Total	Regular	Unclassified	Total	
1967							
April	99	2	101	58	3	61	162
May	102	5	107	58	36	94	201
June	105	5	110	57	36	93	203
July	106	5	111	56	55	111	222
Aug.	108	5	113	56	30	86	199
Sept.	105	4	109	61	1	62	171
Oct.	107	6	113	61	1	62	175
Nov.	105	5	110	63	1	64	174
Dec.	106	7	113	63	1	64	177
1968							
Jan.	108	6	114	63	—	63	177
Feb.	110	4	114	62	—	63	176
March	112	3	115	59	—	59	174
Average	106	5	111	60	14	74	185

P4

Staff Turnover of Regular and Probationary Employees During Fiscal Year 1967-68

	Resigned	Dismissed	Retired	Died	Super- annuated	Inter-Dept'al Transfers	Total
Head Office	16	1	0	1	0	1	19
Field	3	0	0	0	1	0	4
TOTALS	19	1	0	1	1	1	23

Staff turnover for the year was 13.5%. This is the ratio of separations to total regular and probationary staff.

